CRAFTSTYLE

CRAFTSTYLE

WEST VIRGINIA UNIVERSITY

FIFTY - THIRD YEAR

CATALOGUE AND ANNOUNCEMENTS

1919 : : : : 1920

MORGANTOWN, WEST VIRGINIA
PUBLISHED BY THE UNIVERSITY

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CALENDAR FOR 1920-21

1920

JANUARY

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UNIVERSITY CALENDAR

1920

June 15, Tuesday ..... Commencement

June 15, Tuesday, 2:00 P. M. ..... Summer School Begins

August 27, Friday ..... Summer School Ends

September 20, Monday ..... First Semester Begins

September 20, 21, 22, Monday, Tuesday and Wednesday
Matriculation and Registration of Students

September 23, Thursday ..... First Recitations of First Semester

November 19, Friday ..... Day of Mid-semester Reports

November 25, Thursday, to November 28, Sunday, inclusive
Thanksgiving Recess

November 29, Monday ..... Recitations Resume

December 6, Monday
Tenth Aniversary Meeting of the Phi Beta Kappa Society

December 23, Thursday, to January 3, 1921, Monday, inclusive
Christmas Holiday Recess

1921

January 29, Saturday ..... Last Recitations of First Semester

January 29, Saturday, to February 4, Friday, inclusive
Final Examinations of First Semester

February 7, Monday ..... Second Semester Begins

February 7, 8, Monday and Tuesday ..... Registration of Students

February 7, Wednesday ..... First Recitations of Second Semester

April 1, Friday ..... Day of Mid-semester Reports

June 4, Saturday ..... Last Recitations of Second Semester

June 6, Monday, to June 11, Saturday, inclusive
Final Examinations of Second Semester

June 14, Tuesday ..... Commencement

West Virginia University

MORGANTOWN

ESTABLISHED FEBRUARY 7, 1867.

THE STATE BOARD OF CONTROL.

403 CAPITOL STREET

CHARLESTON, WEST VIRGINIA

E. B. STEPHENSON, PRESIDENT.....Charleston, W. Va.
J. M. WILLIAMSON, TREASURER.....Charleston, W. Va.
JAMES S. LAKIN.....Charleston, W. Va.

The State Board of Control has the direction of the financial and business affairs of the state educational institutions.

THE STATE BOARD OF EDUCATION

STATE CAPITOL BUILDING

CHARLESTON, WEST VIRGINIA

M. P. SHAWKEY, STATE SUPERINTENDENT OF SCHOOLS,
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EARL W. OGLEBAY.....Wheeling, W. Va.
NOAH G. KEIM.....Elkins, W. Va.
FRANK N. SYCAFOOSE.....Webster Springs, W. Va.
L. W. BURNS ----------Grafton, W. Va.
W. C. COOK ----------Welch, W. Va.

The State Board of Education has charge of all matters of a purely scholastic nature concerning the state educational institutions.

ADMINISTRATIVE OFFICERS.

OF THE UNIVERSITY

FRANK BUTLER TROTTER, A.M., LL.D., PRESIDENT
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ALFRED JARRETT HARE, A.M., SECRETARY AND REGISTRAR
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DAVID DALE JOHNSON, A.M., EDITOR OF THE UNIVERSITY BULLETIN
DENNIS MARTIN WILLIS, LL.M., FINANCIAL SECRETARY

OF THE COLLEGES AND SCHOOLS.

The College of Arts and Sciences

JAMES MORTON CALLAHAN, PH.D., DEAN

The College of Engineering

CLEMENT ROSS JONES, M.M.E., DEAN

The College of Agriculture

JOHN LEE COULTER, PH.D., DEAN AND DIRECTOR OF THE AGRICULTURAL EXPERIMENT STATION
NAT TERRY FRAME, A.B., DIRECTOR OF AGRICULTURAL EXTENSION

The College of Law

HENRY CRAIG JONES, A.B., LL.B., DEAN

The School of Medicine

JOHN NATHAN SIMPSON, M.D., DEAN

The School of Music

LOUIS BLACK, DIRECTOR

The Summer School

WAITMAN BARBE, LITT.D., DIRECTOR.

THE COUNCIL OF ADMINISTRATION.

The President of the University and the Deans of the various colleges.

THE UNIVERSITY FACULTY.

The President, Deans of the various colleges, Professors, Associate Professors and Assistant Professors in all divisions of the University, the Dean of Women, the Commandmant of Cadets, the Director of the School of Music and the Librarian of the University.

STANDING COMMITTEES.

ENTRANCE: The deans of the three colleges admitting freshmen.

CLASSIFICATION AND GRADES: Professors HARE, TRUSCOTT, J. R. TROTTER and GRUMBEIN and Associate Professor L. B. HILL.

GRADUATE WORK: Dean CALLAHAN, Professors DEAHL, COX, (Secretary), WAGGONER and DAVIS.

PUBLIC EXERCISES: Professors TRUSCOTT and HAYES, Director BLACK, (Secretary), Assistant Professor HIGBY and Mr. STAPLETON.

PRIZES: Professor VICKERS, Dean H. C. JONES, and Professors BARBE, HODGSON and CANNADAY.

LIBRARY: Dr. ARNETT, Professors ARMSTRONG, SIMPSON, HAYES, CLARK, BROWN, and EIESLAND and Associate Professor SALTER.

WOMEN STUDENTS: Dean MOORE, Associate Professor COLWELL, Mrs. PURINTON, Miss HAYES, and Miss POLLOCK.

UNIVERSITY PUBLICATIONS: Associate Professor D. D. JOHNSON, Professors BARBE, CANNADAY, FORMAN, and SIMONTON, and Mr. STOCKDALE.

STUDENT PUBLICATIONS: Professors STATHERS, CHITWOOD, MORRIS, BISHOP and CAVINS.

SUMMER SCHOOL: President TROTTER, Dean CALLAHAN, and Professors BARBE, DEAHL and WINKLER.

MILITARY AND GYMNASIUM BOARD: Captain MUMMA, Dean SIMPSON and Professor HARE.

SOCIAL AFFAIRS: Associate Professor DARBY, Professors COX, REESE, and KAY, Dean MOORE, Captain MUMMA, Mrs. SNEE and Mrs. PURINTON.

FRATERNITIES: Associate Professor SMITH, (Delta Tau Delta), Professor REESE (Beta Theta Pi), Mr. WILLIS (Phi Sigma Kappa), Associate Professor HARDMAN (Sigma Nu), Dr. ARNETT (Sigma Chi), Professor TRUSCOTT (Phi Kappa Psi), Professor ARMSTRONG (Kappa Alpha), Assistant Professor GROW (Sigma Phi Epsilon), and Mr. GLEN HUNTER (Phi Kappa Sigma).

SORORITIES: Miss COLWELL (Alpha Xi Delta), Mrs. HITE (Kappa Kappa Gamma), Mrs. BARBE (Chi Omega) and Miss FOX, (Pi Beta Phi).

THE ATHLETIC BOARD.

FACULTY MEMBERS: Director STANSBURY (Ex-officio), Associate Professor S. J. MORRIS, and Mr. HARTLEY.

ALUMNI MEMBERS: GILBERT D. MILLER, Morgantown, W. Va. (Term expires June 30, 1921). STEPHEN GOODLOE JACKSON, Clarksburg, W. Va. (Term expires June 30, 1920).

STUDENT MEMBERS: WILLIAM J. SNEDIGER, KARL BYRON KYLE, Jr. (Term expires June 30, 1920).

STAFF OF INSTRUCTION.

PROFESSORS.

DANIEL BOARDMAN PURINTON, PH.D., LL.D., *President and Professor of Philosophy, Emeritus*

JAMES SCOTT STEWART, M.S., *Professor of Mathematics*

ROBERT WILLIAM DOUTHAT, A.M., PH.D., *Professor of Latin, Emeritus*

WILLIAM PATRICK WILLEY, A.M., *Professor of Equity Jurisprudence, and Commercial Law, Emeritus*

THOMAS CLARK ATKESON, PH.D., *Professor of Animal Husbandry, Emeritus*

ALEXANDER REID WHITEHILL, A.M., PHD., *Professor of Chemistry*

FREDERICK LINCOLN EMORY,[1] B.S., M.E., *Professor of Mechanics and Applied Mathematics*

SAMUEL BOARDMAN BROWN, A.M., *Professor of Geology and Mineralogy*

ROBERT ALLEN ARMSTRONG, A.M., L.H.D., *Professor of English Language and Literature*

BERT HOLMES HITE, M.S., *Professor of Agricultural Chemistry*

ALFRED JARRETT HARE, A.M., *Profesor of Latin Language and Literature*

FREDERICK WILSON TRUSCOTT, PH.D., *Professor of Germanic Languages and Literature*

CLEMENT ROSS JONES, M.M.E., *Professor of Power Engineering*

RUSSELL LOVE MORRIS, C.E., *Professor of Railway and Highway Engineering*

JASPER NEWTON DEAHL, PH.D., *Professor of Education*

JAMES MORTON CALLAHAN, PH.D., *Professor of History and Political Science*

JOHN NATHAN SIMPSON, A.B., M.D., *Professor of Physiology*

JOHN HARRINGTON COX, A.M., *Professor of English Philology*

JOHN ARNDT EIESLAND, PH.D., *Professor of Mathematics*

ALBERT MOORE REESE, PH.D., *Professor of Zoology*

OLIVER PERRY CHITWOOD, PH.D., *Professor of European History*

JAMES RUSSELL TROTTER, PH.D., LL.B., *Professor of Law*

CHAUNCEY WILLIAM WAGGONER, PH.D., *Professor of Physics*

LOUIS BLACK, *Head of the Department of Vocal Music*

MADISON STATHERS, PH.D., *Professor of Romance Languages*

---

[1] Died December 31, 1919.

WAITMAN BARBE, A.M., LITT.D., *Professor of English*

ENOCH HOWARD VICKERS, A.M., *Professor of Economics and Sociology*

LLOYD LOWNDES FRIEND, A.M., *Professor of Secondary Education*

CHARLES EDWARD BISHOP, PH.D., *Professor of Greek Language and Literature*

ROLAND PARKER DAVIS, M.C.E., PH.D., *Professor of Structural and Hydraulic Engineering*

AARON ARKIN, PH.D., M.D., *Professor of Pathology and Medical Bacteriology*

JOSEPH ELLIS HODGSON, PH.D., *Professor of Mathematics*

HENRY CRAIG JONES, A.B., LL.B., *Professor of Law*

FRIEND EBENEZER CLARK, B.S., PH.D., *Professor of Chemistry*

LEONARD MARION PEAIRS, B.S.AGR., M.S., *Professor of Entomology*

CHARLES BENTON CANNADAY, A.M., *Professor of Latin*

JOHN BEHNY GRUMBEIN, M.M.E., *Professor of Steam and Experimental Engineering*

ALEXANDER HARDIE FORMAN, M.M.E., PH.D., *Professor of Electrical Engineering*

JAMES WIGGIN SIMONTON, A.B., J.D., *Professor of Law*

CHARLES HENRY AMBLER, PH.D., *Professor of History (Extension)*

CHARLES HERMAN WINKLER, PH.D., *Professor of Agricultural Vocational Education*

EDWARD NATHAN ZERN, B.S.E.M., *Lecturer on Mining Engineering*

LESLIE DAVID HAYES, M.E., *Professor of Machine Design and Construction*

LORIMER VICTOR CAVINS, A.M., *Professor of Education*

HARLAN LESLIE MUMMA, *Captain, United States Army, Professor of Military Science and Tactics and Commandmant of Cadets*

NAHUM JAMES GIDDINGS, PH.D., *Professor of Plant Pathology*

ALFRED COPELAND CALLEN, E.M., M.S., *Professor of Mining Engineering*

THOMAS PORTER HARDMAN, M.A., JUR.DR., *Professor of Law*

WILBUR JONES KAY, A.M., *Professor of Public Speaking*

CHARLES McKEE CANTRALL, A.M., D.D., *Professor of Psychology and Philosophy*

HARLAN HARVEY YORK, PH.D., *Professor of Botany*

ERNEST LEE ANTHONY, M.S., *Professor of Dairy Husbandry*

EDWARD ALEXANDER LIVESAY, M.S.AGR., *Professor of Animal Husbandry*

GEORGE PAUL BOOMSLITER, M.S., *Professor of Mechanics*

JACOB KINGSLEY SHAW, PH.D., *Professor of Horticulture Engineering*

JAMES HERBERT GILL, M.E., *Professor of Machine Construction and Superintendent of Shops*

ASSOCIATE PROFESSORS.

SIMEON CONANT SMITH,[1] A.M., *Associate Professor of Rhetoric*

ARLEIGH LEE DARBY, A.M., *Associate Professor of Romance Languages*

DAVID DALE JOHNSON, A.M., *Associate Professor of English*

CHARLES AUGUSTUS LUEDER, D.V.M., *Associate Professor of Veterinary Science*

RACHEL HARTSHORN COLWELL, B.S., A.M., *Associate Professor of Home Ecoonmics*

ANDREW JACKSON DADISMAN,[2] M.S.AGR., *Associate Professor of Rural Economics and Farm Management*

SAMUEL JOHN MORRIS, M.D., *Associate Professor of Anatomy*

EDGAR LEWIS ANDREWS, B.S.AGR., *Associate Professor of Poultry Husbandry*

ARTHUR ADAMS HALL, B.S., M.E., *Associate Professor of Electrical Engineering*

BENJAMIN TOWNE LELAND, A.M., *Associate Professor of Industrial Education*

LAWRENCE BENJAMIN HILL, A.M., *Associate Professor of Education*

WITHROW MORSE, PH.D., *Associate Professor of Physiology and Physiological Chemistry*

HENRY ALBERT JONES, PH.D., *Associate Professor of Horticulture*

FLOYD EARLE CHIDESTER, PH.D., *Associate Professor of Zoology*

RODERICK DUNCAN McKENZIE, A.B., *Associate Professor of Sociology*

ROBERT MUNDHENK SALTER, M.S., *Associate Professor of Agronomy*

MARTIN LOXLEY BONAR, M.D., *Associate Professor of Pharmacology*

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[1] On leave of absence.
[2] On leave of absence during first semester.

ASSISTANT PROFESSORS.

BENJAMIN WALTER KING, A.B., *Assistant Professor of Economics*

SIMEON THOMPSON HART,[1] M.E., *Assistant Professor of Machine Construction and Superintendent of Shops*

HUBERT HILL, M.S., *Assistant Professor of Chemistry*

LEO CARLIN, A.B., LL.B., *Assistant Professor of Law*

JOHN JONATHAN YOKE, B.S.,AGR.,[1] *Assistant Professor of Animal Husbandry*

GORDON ALGER BERGY, PH.C., B.S., *Assistant Professor of Pharmacy*

HENRY WYATT RICHEY, B.S.AGR., *Assistant Professor of Horticulture*

GEORGE WALTER GROW, B.S.M.E., *Assistant Professor of Drawing and Machine Design*

SAMUEL MORRIS, M.S., *Assistant Professor of Chemistry*

GIDEON STANHOPE DODDS, PH.D., *Assistant Professor of Histology and Embryology*

JOHN HAGER RANDOLPH,[2] *Lieutenant, United States Army, Assistand Commandant of Cadets*

CHESTER PENN HIGBY, PH.D., *Assistant Professor of History*

ANTONIO JOSEPH PROVOST, B.L., *Assistant Professor of Romance Languages*

OTTO STUHLMAN, PH.D., *Assistant Professor of Physics*

EARL READ SCHEFFEL, M.S., *Assistant Professor of Geology*

PAUL ROCHAT, M.A., *Assistant Professor of French*

EDWARD NOEL ROBERTS,[1] PH.D., *Assistant Professor of Chemistry*

EDWARD SWITZER ALLEN, PH.D., *Assistant Professor of Mathematics*

GEORGE ROSS BANCROFT, PH.D., *Assistant Professor of Chemistry*

HARRY EDWARD KNOWLTON, B.S.AGR., *Assistant Professor of Horticulture*

ROLAND HARRISON PATCH, M.S., *Assistant Professor of Horticulture*

HARRY ORAM HENDERSON, M.S., *Assistant Professor of Dairy Husbandry*

HELMER SWENHOLT, *Captain, Engineers, U. S. A., Assistant Professor of Military Science and Tactics, in charge of the Engineer Unit*

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[1] Resigned, February 1, 1920.
[2] Relieved, February 1, 1920.

ROSEWELL PAGE BLEDSOE, M.S., *Assistant Professor of Agronomy*
HOWARD BUSHNELL ALLEN, M.S., *Assistant Professor of Agricultural Education*
HARVEY CARSON GRUMBINE, PH.D., *Assistant Professor of English*
HARLEY LUCIUS CRANE, B.S.AGR., *Assistant Professor of Horticulture*

INSTRUCTORS.

SUSAN MAXWELL MOORE, A.B., *Instructor in Piano*
GRACE MARTIN SNEE, B.M., *Instructor in Piano and Pipe Organ*
RUFUS ASA WEST, *Instructor in Metalworking*
FLORA RAY HAYES, A.B., *Instructor in Theory and History of Music*
ROBERT WALDO FISHER, M.D., *Instructor in Physical Diagnosis*
IRVIN HARDY, M.D., *Instructor in Minor Surgery*
RAYMER EGBERT SEAMAN, *Instructor in Woodworking and Foundry Practice*
ROBERT CLIFTON SPANGLER, A.M., *Instructor in Botany*
CHARLES BYRON JOLLIFFE, B.S., *Instructor in Physics*
NINA CATHERINE REILLY, B.S., *Instructor in Home Economics*
PAUL CHARLES ROUZER, B.S.AGR., *Instructor in Agricultural Education*
MAX DONNER, *Instructor in Violin*
LESLIE ANKROM,[1] B.S.AGR., *Instructor in Horticulture*
EDGAR WILLIAMS, A.M., *Instructor in English*
GLADYS GRIMSHAW GILL, B.S., *Instructor in Home Economics*
CLARA ROWENA SCHMIDT, B.S.ED., *Instructor in Home Economics*
THOMAS JACKSON BLAIR,[2] B.S.C.E., *Instructor in Surveying*
HUGH ANDERSON, *Instructor in Mining (Extension)*
HARRY EDWARD GRAY, *Instructor in Mining (Extension)*
WALTER SPRAGUE FROST,[2] A.M., *Instructor iln Chemistry*
ALLEN EDWARD STEARN , PH.D., *Instructor in Chemistry*
CHARLES CHAPMAN SNOW, A.M., *Instructor in Chemistry*
CLARA LYTLE, A.B., *Instructor in English*
ELIZABETH DEE FROST, A.M., *Instructor in English*
MARJA BROWN STEADMAN, A.B., *Instructor in English*
EVA MYRTLE FLING, A.B., *Instructor in Botany*
CARL HENRY CATHER, B.S.M.E., *Instructor in Drawing and Machine Design*
BENNETT SEXON WHITE, B.S.M.E., *Instructor in Drawing and Machine Design*
HAROLD MALCOLM CATHER, B.S.M.E., *Instructor in Drawing and Machine Design*
JAMES ADDIS GRAFT, *Instructor in Mining (Extension)*

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[1] Died, December, 1919.
[2] Resigned, February 1, 1920.

CHARLES KEPLER BROWN, *Instructor in Mining (Extension)*
ARTHUR TAYLOR BRAGONIER, B.S.C.E., *Instructor in Surveying*
WILLIAM JOHN CARL, *Instructor in Foundry Practice*
ERNEST ANGELO, B.S.AGR., *Instructor in Horticulture*
CHARLES VINYARD WILSON, B.S.AGR., *Instructor in Animal Husbandry*
GEORGE LEE SCHUSTER, M.S., *Instructor in Agronomy*
ROSCOE ELMO STEPHENSON, M.S., *Instructor in Agronomy*
JOSEPH LESTER HAYMAN, PH.C., B.S., *Instructor in Pharmacy*
CHARLES McCHESNEY BRAY, M.D., *Instructor in Practical Physical Diagnosis*
AGNES CHADBOURNE JOHNSON, A.B., *Instructor in Public School Music*
FRANCES M. YOUNG, B.S., *Instructor in Home Economics*

ASSISTANTS.

WALTER ALEXANDER MESTREZAT, *Assistant in Music*
HELEN WIESTLING. A.B., *Assistant in Pharmacology and Physiology*
FRANK MYERS TRUMP, B.S., *Assistant in Bacteriology and Pathology*
ESTHER WAGNER STEARNS, A.B., *Assistant in Chemistry*
ARCHIE FREELAND ARNOLD, *Assistant in Woodworking*

STUDENT ASSISTANTS.

CLAIRE FISHER, A.B., *Student Assistant in Mathematics*
CECIL ORVAL RIGGS, *Student Assistant in Chemistry*
ALLEN GUY MONTGOMERY, A.B., *Student Assistant in Mathematics*
GREEK SAYRE, A.B., *Student Assistant in History and English*
HELEN PURINTON PETTIGREW, A.B., *Student Assistant in English*
CHARLES LESTER LAZZELL, A.B., *Student Assitant in Chemistry*
GEORGE ANDREW FEDERER, *Student Assistant in Chemistry*
HERMAN E. WILSON, *Student Assistant in Chemistry*
CLARENCE DANIEL LUTHER ROPP, *Student Assistant in Chemistry*
CLEMENT ANTHONY McMURRER, *Student Assistant in Chemistry*
VERNON COMPTON, *Student Assistant in Zoology*
GERTRUDE MARTIN, *Student Assistant in German*
BRADFORD NOYES, Jr., *Student Assistant in Physics*
JAMES WOOD CLERKSON, *Student Assistant in Physics*
JEAN BILLINGSLEA, *Student Assistant in Applied Design*
ALMENA JOSEPHINE BUNCE, *Student Assistant in Music*
ANNIE LENA COKELEY, *Student Assistant in Home Economics*
NELL MILDRED HOCK, *Student Assistant in Zoology*
VICTORIA ELECTA McGOVRAN, *Student Assistant in Home Economics*
EDNA MARGARET MILLER, *Student Assistant in Home Economics*

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[1] Resigned, February 1, 1920.

THE WEST VIRGINIA AGRICULTURAL EXPERIMENT STATION STAFF.

JOHN LEE COULTER, A.M., PH.D., *Director*

BERT HOLMES HITE, M.S., *Chemist*

NAHUM JAMES GIDDINGS, PH.D., *Plant Pathologist*

WILLIAM EARL RUMSEY, B.S.AGR., *State Entomologist*

HORACE ATWOOD, M.S., AGR., *Poultryman*

LEONARD MARION PEAIRS, B.S.AGR., *Research Entomologist*

CHARLES AUGUSTUS LUEDER, D.V.M., *Veterinarian*

ANDREW JACKSON DADISMAN,[1] M.S.,AGR., *Research Agronomist*

ISAAC SCOTT COOK, JR., B.S.AGR., *Research Agronomist*

JACOB KINGSLEY SHAW, PH.D., *Horticulturist*

EDWARD ALEXANDER LIVESAY, A.M., *Animal Husbandry*

HENRY ALBERT JONES, PH.D., *Associate Horticulturist*

HARLEY LUCIUS CRANE, B.S.AGR., *Associate Horticulturist*

EDGAR LEWIS ANDREWS, B.S.AGR., *Assistant Poultryman*

LUTHER FRANCIS SUTTON, B.S.AGR., *Assistant Horticulturist and Superintendent of Reymann Memorial Experiment Farm*

ANTHONY BERG, B.S., *Assistant Plant Pathologist*

CHARLES EDWARD WEAKLEY, JR., *Assistant Chemist*

FRANK BATSON KUNST, A.B., *Assistant Chemist*

JAN HENDRICK BERGHUIS-KRAK,[2] *Assistant Chemist*

ROBERT MUNDHENK SALTER, M.S., *Assistant Soil Chemist*

JOHN JONATHAN YOKE,[2] B.S., *Assistant in Animal Husbandry*

CHARLES ELLSWORTH STOCKDALE, B.S.AGR., *Agricultural Editor*

ROSS HOMAN TUCKWILLER, B.S.AGR., *Assistant in Animal Husbandry*

THEODORE CLINTON McILVAINE, B.S.AGR., *Assistant Agronomist, In Charge of Huntington Sub-Station*

ROWLAND HARRISON PATCH, M.S., *Assistant Horticulturist*

HARRY WYATT RICHEY, B.S.AGR., *Assistant Horticulturist*

HERMAN HERBERT HANSON,[3] M.S., *Assistant Chemist*

HARRY EDWARD KNOWLTON, B.S., *Assistant Horticulturist*

GEORGE LEE SCHUSTER, M.S., *Assistant Agronomist*

ROSCOE ELMO STEPHENSON, M.S., *Assistant Soil Chemist*

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[1] On leave of absence during first semester.
[2] Resigned, February 1, 1920.

CHARLES VINYARD WILSON, B.S.AGR., *Assistant in Animal Husbandry*

ERNEST ANGELO, B.S., *Assistant Horticulturist*

THOMAS JOSEPH COCHRAN, B.S., *Assistant Chemist*

HENRY EDWIN SHRIVER, B.S., *Assistant Chemist*

ROSEWELL PAGE BLEDSOE, M.S., *Assistant Agronomist*

JAMES BENSON BLANDFORD,[4] *Horticultural Superintendent*

AGRICULTURAL EXTENSION STAFF.

NATT TERRY FRAME, A.B., *Director, in Charge of Rural Organizations*

WILLIAM HENRY KENDRICK, B.S., *Assistant Director in Charge of Boys' Club Work*

HUGH SWISHER VANDERVORT, B.S., *Assistant Director in Charge of Agronomy, Horticulture and Dairy Extension*

BENTON BONNER EZELL, B.S., *Assistant Director in Charge of Livestock Extension*

CHARLES HENRY HARTLEY, B.S., *Assistant Director in Charge of Extension Schools, Exhibits, Etc.*

MARION HEPWORTH, B.S., *Assistant Director in Charge of Home Economics Extension*

WITHROW REYNOLDS LEGGE, M.S.,[1] *Extension Specialist in Horticulture*

DAVID ROLLIN DODD, B.S.AGR., *Extension Specialist in Agonomy*

HUGH WILLARD PRETTYMAN, B.S.AGR., *Extension Specialist in Horticulture*

DEE CRANE, *Extension Specialist in Potatoes*

ENOS JOHNSON PERRY, B.S., *Extension Specialist in Dairying*

BENJAMIN FRANKLIN CREECH, B.S.AGR., *Extension Specialist in Beef Cattle and Hogs*

EDWARD LEE SHAW, B.S.AGR., *Extension Specialist in Sheep*

RALPH L. MASON, *Extension Specialist in Poultry*

KATHERINE ALGER, A.B., B.S.AGR., *in Charge of Girls' Work*

SADIE RAY GUSEMAN, B.S., *Specialist in Girls' Work*

CHARLES ELLSWORTH STOCKDALE, B.S.AGR., *Agricultural Editor*

ROSS BRADSHAW JOHNSTON, *Specialist in Agricultural Publicity*

JEANNETTA WEIL, *Chief Clerk, in Charge of Clerks and Stenographers*

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[1] Resigned, February 1, 1920.
[2] Resigned, February, 1920.
[4] Resigned, March 15, 1920.

LIBRARY STAFF.

LONNA DENNIS ARNETT, PH.D., *Librarian*

MARY ADELAIDE FOX, *Assistant Librarian*

JENNIE DELAWDER BOUGHNER, A.B., *Assistant Librarian*

VIVIAN GORDON REYNOLDS, *Student Assistant*

ELIZABETH STEWART HOGE, *Student Assistant*

BLAKE E. NICHOLSON, *Student Assistant*

OTHER OFFICERS.

CLIFFORD ATWOOD STEEPLETON, A.B., *General Secretary Young Men's Christian Association*

BERTHA BROWNING PURINTON, A.M., *Assistant to the Dean of Women*

HARRY ADAMS STANSBURY, B.S., *Director of Athletics*

CHANDLER LINN BROOKS, *Superintendent of Buildings and Grounds*

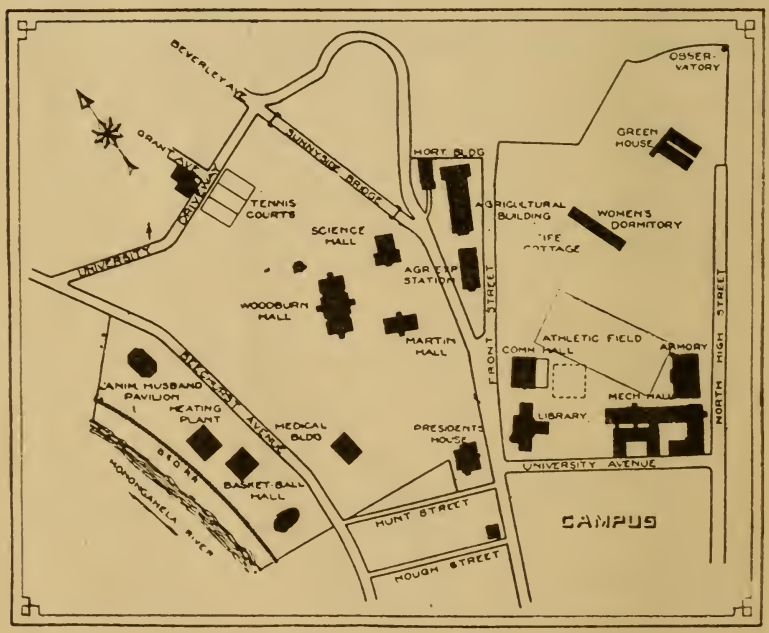
ELIZABETH B. ABBOTT, *Matron of the Women's Hall*

THE UNIVERSITY

DESCRIPTION OF THE INSTITUTION.

LOCATION.

Morgantown, the seat of the University, is the county seat of Monongalia county. It is a beautiful town of twelve thousand inhabitants, located on the Monongahela river and on the Baltimore and Ohio Railroad, the Morgantown and Kingwood Railroad, and the Monongahela Railway, 103 miles east of Wheeling, and the same distance south of Pittsburg. It has modern conveniences of natural gas, water-works, electric lights, street railways, local and long distance telephones, and is noted for its healthful conditions, physical, social, and moral. There are churches of the following denominations in the town: Presbyterian, Methodist Episcopal, Methodist Protestant, Baptist, Protestant Episcopal, Lutheran, Christian and Roman Catholic.



MAP OF PART OF CAMPUS.

Few institutions of learning have more attractive natural sites. The University grounds border the Monongahela river and afford a

most picturesque outlook. The campus comprises about fifty acres The University farms, a mile distant from the compus, contain in all almost seven hundred acres.

HISTORY.

West Virginia University originated from the national land grant act of June 2, 1862, and from the subsequent action of the state legislature in accepting and carrying out the provisions of the act. On January 9, 1866, the board of trustees of the Monongalia Academy at Morgantown tendered to the legislature for the use of the contemplated state or land grant college, all its property, including Woodburn Female Seminary ,estimated at $51,000, on condition that the college should be located at Morgantown. On January 30, 1867, the legislature accepted the property and on February 7 passed an act permanently establishing "The Agricultural College of West Virginia" and authorizing the governor to appoint eleven suitable persons as a board of visitors.

The eleven visitors held the first meeting on April 3, 1867, at which time they appointed Alexander Martin president and established collegiate, scientific and agricultural departments of instruction.

By an act of December 4, 1868, the name of the college was changed to "West Virginia University" and the "board of visitors" to the "board of regents." July 1, 1919, the "board of regents" was merged in "the state board of education."

The dates of the establishment of the special colleges and schools now comprised in the University are as follows: The College of Law, 1878; the College of Engineering, 1887; the Agricultural Experiment Station, 1888; the College of Agriculture, 1897; the School of Music, 1897; the School of Medicine, 1902.

The University has had nine regular presidents. Alexander Martin resigned in 1875. He was succeeded by John W. Scott (acting president), 1875-7; John Rhey Thompson, 1877-81; Daniel Boardman Purinton (acting president), 1881-82; William L. Wilson, 1882-3; Robert C. Berkeley (chairman of the faculty), 1883-5; Eli Marsh Turner, 1885-93; Powell Benton Reynolds (acting president), 1893-5; James L. Goodnight, 1895-7; Jerome Hall Raymond, 1897-01; Daniel Boardman Purinton, 1901-11; Thomas Edward Hodges, 1911-14; Frank Butler Trotter (acting president, 1914-1916), 1916.

GOVERNMENT AND ORGANIZATION.

The financial and business affairs of the University and of all the other state educational institutions are directed by a State Board of Control consisting of three members appointed by the governor. This

board also exercises a general control over the various public institutions of the state. The academic control of the University and also of the other educational institutions of the state, with the exception of the School for the Deaf, Dumb and Blind, The Boys' Reform School, and The Girls' Industrial School, is vested in The State Board of Education. The board is bi-partisan and consists of the state superintendent of free schools (ex officio), who is elected by the people, and of six other members who are appointed by the governor.

The internal admiinstration of the University is vested in the President, The Council of Administration, and the University Faculty. All matters of a purely administrative or executive nature are in the hands of the President alone or of the President and Council. The Faculty is the general legislative body; it fixes the requirements for entrance and graduation and has immediate direction of the general educational policy of the institution. Any proposal to change this policy in any respect must be made in writing at a meeting of the Faculty.

Subordinate to the Faculty are a number of standing committees, appointed by the President. See page 8.

The University organization embraces:

The College of Arts and Sciences.

The College of Engineering and Mechanic Arts.

The College of Agriculture.

The College of Law.

The following schools and divisions are connected with the University in their management and work, but do not confer degrees:

The School of Medicine.

The School of Music.

The Summer School.

The Division of Military Science and Tactics.

The West Virginia Agricultural Experiment Station.

The Division of Agricultural Extension.

FUNDS.

The funds for maintaining the University are derived from the following sources: (1) Interest on the land grant endowment of $115,750; (2) the Morrill fund; (3) the Hatch fund; (4) the Adams fund; (5) the Smith-Hughes and the Smith-Lever funds; (6) biennial appropriations by the state legislature; (7) fees and tuition. The annual income of the University and Experiment Station from all sources is now approximately $900,000.

BUILDINGS.

The buildings are as follows:

1. Woodburn Hall, a three-story building, containing the administrative offices, lecture rooms, the law library and various laboratories.

2. Science Hall, a three-story building, containing lecture rooms and laboratories for the department of chemistry.

3. Martin Hall, a three-story building, containing the recitation rooms and laboratories of the department of physics and the halls of the Columbian and Parthenon literary societies.

4. Commencement Hall, a large two-story building, containing a commodious chapel, with 1,500 seats, the gymnasium, and the Young Men's Christian Association rooms.

5. The Agricultural Building, a four-story building, containing the laboratories and offices of the College of Agriculture.

6. The Experiment Station Building, containing the chemistry laboratories and soils laboratories of the Agricultural Experiment Station.

7. The Armory and Drill Hall, for the Division of Military Science.

8. Mechanical Hall, occupied by the College of Engineering and Mechanical Arts, the department of geology, and the State Road Commission.

9. The Medical building, a three-story brick building containing the offices, lecture rooms and laboratories of the School of Medicine

10. The Library, containing the general library and reading and seminary rooms.

1. The Women's Hall, a three-story brick building, containing a dining hall and dormitory for women students.

12. The Women's Hall Annex, a rented building on Willey street containing additional dormitory facilities for women students.

13. The Presidents' House.

14. The Central Heating Plant.

15. The Horticultural Building, containing the offices, recitation rooms and laboratories of the department of horticulture.

16. The University Greenhouse.

17. The Basket-Ball Building.

18. The Livestock Pavilion.

Besides these there are the various buildings on the University Farm.

THE UNIVERSITY LIBRARY.

The Library Building is a three-story stone structure, 135 feet long by 50 feet wide, with book room annex in the rear. The basement of the building is used for storage. On the first, or main floor, are the reading and reference rooms, the cataloguing rooms and the office of the librarian. On the upper floors are rooms for government documents, for storage, and for class work.

The reading and reference rooms are equipped with modern library appliances and are convenient to the book room in the rear.

The University Library consists of the General and Law Libraries. The General Library is located in the Library Building and numbers about 56,500 volumes. The Law Library, located in Woodburn Hall, numbers about 13,500 volumes. The library of the Agricultural Experiment Station is now shelved with and is a part of the General Library. Two hundred and seventy-five periodicals, including publications of societies, are received. Most of the county papers of the state are on file in the reading room.

All officers and students, and, under special restrictions, persons not connected with University, have the privilege of drawing books from the library for home use, two volumes being allowed at one time. The corps of instruction have direct access to the shelves and students may have this privilege for special investigation upon recommendation of their instructors. The most important reference books, and books used in connection with the courses of instruction, numbering between 4,000 and 5,000, are kept on open shelves in the reference room. A card catalogue, shelf list and other bibliographic aids are provided and the members of the library staff are ready at all times to give assistance in research and investigation.

The Library is open from 7:45 a. m. to 10 p. m. every week day during the semester except Friday, when it closed at 8 p. m. It is closed on Thanksgiving day, Christmas day, New Year's day and the Fourth of July. On Sundays the Library is open for readers from 2 to 5 p. m. No books may be borrowed on Sunday. During the Christmas and summer vacations it is open on week days from 8 to 12 a. m.

PHYSICAL LABORATORIES.

The department of physics occupies Martin Hall. The general lecture room is provided with water, gas, compressed air, electrical power, a special device for rapidly darkening the room, and a solid masonry pier for galvanometers, etc., requiring a non-vibratory support. The two general laboratories are large enough to accommodate forty students working at one time and are equipped with the view of accomplishing the maximum amount of laboratory work in the

minimum time. The photometer room is equipped with a Reichanstalt-Summer-Brodhun photometer and a Hilger Constant Deviation Spectrophotometer. The electrical standardizing laboratory is equipped with three individual switchboards connecting with the main power board, a full line of D. C. and A. C. measuring instruments, six mounted galvanometers, a Leeds and Northrup Potentiometer with standard cells and resistances for D. C. calibration, a Siemens Dynamometer for A. C. calibration, Thompson, Ring and Epstein sets for iron testing, standard capacities and Wheatstone and Cary-Foster Bridges for resistance measurements. The shop is supplied with a full line of bench tools for the manufacture and repair of apparatus, and has in addition a 9-in. lathe, a 9-in. drill press, a circular saw and emery wheels—all driven by a 3-HP motor.

Electrical power is supplied from a motor-generator set, the D. C. voltage being controlled by a Tirrill Regulator insuring steady voltage for laboratory work. It has in addition a 220-volt A. C. supply, and 50 volts from a storage battery. The distributing board is equipped with auto-transformers and special rheostats making it possible to distribute various kinds of power to each laboratory in the department. The department is also equipped wtih apparatus for advanced work in light and heat.

Under Chapter 16, Acts of West Virginia, 1915, the director of the physical laboratory of the West Virginia University is Assistant Commissioner of Weights and Measures in the State of West Virginia. The physical laboratory is therefore the State Standardizing Laboratory for Weights and Measures and is provided with all the necessary standard weights, measures, balances and apparatus for carrying on this work.

The University Library has on file the current numbers of most of the standard journals of physics.

CHEMICAL LABORATORIES.

The rooms assigned to the department of chemistry consist of three lecture rooms, two recitation rooms, six large laboratories, and one smaller laboratory. Connected with these are two weighing rooms and two preparation rooms. The laboratories afford working space for two hundred students at a time and are supplied with water, compressed air, gas, chemicals and apparatus necessary for practical work. This apparatus includes a large number of pieces used in illustrating the elementary principles of the science, as well as the more expensive instruments used in analytical work. A collection of the latest reference and text books is kept within easy reach of the students.

In addition to the ordinary apparatus, combustion furnaces, gas

and electric tube furnaces, a colorimeter, specific gravity apparatus, a Berthelot bomb calorimeter, a spectroscope, refractometer, etc., can be issued to the students from the stock room when their work demands them.

MUSEUM OF GEOLOGY AND PALEONTOLOGY.

The equipment for the purpose of illustrative teaching in geology, paleontology and mineralogy consist of many thousands of fossils, casts and models, a good collection of minerals, specimens of all the important building stones, and Ward's College Collection in Paleontology, showing the advancement from the early forms of life to those of the present time. Collections of rocks and fossils illustrating the geology of the state are being constantly gathered by the West Virginia Geological Survey and are placed in the keeping of the University, where they are available for study. The University is situated in the midst of a great coal mining region, within five miles of the westernmost fold of the Appalachian mountains, and oil and gas wells are but a short distance away. The natural facilities for the study of geology are unsurpassed.

THE ZOOLOGICAL LABORATORY.

The laboratories devoted to the work of zoology and embryology occupy a part of the third floor of Woodburn Hall. The plumbing, lighting, etc., of these rooms are arranged for the special purpose for which the rooms are used. The lecture room is supplied with projection lantern, wall charts, etc. The laboratories are equipped with high grade microscopes, microtomes, paraffine bath, incubator, and all the other necessary apparatus for general class work. One room is fitted up as a shop and general preparation room. A part of this room has been partitioned off to form a dark-room. A large reducing and enlarging camera and a Bausch and Lomb micro-projection and photographic apparatus make all kinds of photographic work possible. A type collection of animals is gradually being increased. For the work in embryology various series of Ziegler's wax models, embryos, whole and sectioned, dissections, charts, etc., are provided. The bound zoological publications and a few of the most frequently used reference books are kept in the laboratory for convenient reference.

THE BOTANICAL LABORATORIES.

The botanical laboratories are in the Agricultural Building. They are equipped with microscopes, oil-immersion objectives, dissecting

lenses, camera lucidas, microtomes, water baths, paraffine ovens, incubators, sterilizers, autoclave, and some apparatus for plant physiology besides the usual reagents and glassware.

EDUCATIONAL AND PSYCHOLOGICAL LABORATORY

The equipment for use in the laboratory work in connection with courses in education and educational psychology is found in rooms 15, 16, and 17, Woodburn Hall. This equipment includes sufficient apparatus for conducting classes in experimental education and in mental tests and measurements. In addition to the complete set of apparatus that accompanies Whipple's "Manual of Mental and Physical Tests," there has been added recently several hundred dollars' worth of appartus such as mirror-drawing and tracing devices, individual tachistoscopes, mirrors for observing eye-movements, perception cards, puzzles, etc. The laboratory is provided also with a very complete list of samples of 50 or more of the most desirable educational tests and scales, and with practically all of the intelligence tests that have been published. The department is gradually accumulating a number of charts. tables, and graphs of local conditions helpful in studying the educational problems of the state.

OTHER LABORATORIES.

A more detailed description of the various engineering and agricultural laboratories as well as the laboratories of the School of Medicine will be found in connection with the announcements of these departments on later pages of this catalogue.

MILITARY TRAINING.

Military training is prescribed for all regular male students in the University below the rank of junior unless such students are more than twenty-three years of age upon their entrance to the University. Certain exceptions to this requirement are stated in full in the detailed announcements of the Division of Military Science.

State cadets are exempt from the payment of tuition or matriculation fees and are provided with free textbooks to the amount of $10.00 a year. Enrollment in the Division of Military Science or appointment as a state cadet does not render the student liable for military service either to the State or to the United States government.

A unit of the Reserve Officers Training Corps was established at the University in 1916. An Engineer Unit, Senior Division of the Reserve Officers Training Corps was established in 1919 and is now in operation.

ATHLETICS.

The department of athletics, as now organized, is under the supervision of a director. Football, baseball, basketball, track and tennis teams are organized and trained each season. All University athletics are under the control of the athletic board. This board is composed of the director of athletics, two other members of the University faculty, two alumni of the University, and two students.

The faculty members of the board are appointed by the President of the University and serve during his pleasure. One faculty member is designated as chairman of the board. He is the executive officer of the board and has no vote except in case of a tie.

The alumni members are elected by the Alumni Association at their annual meeting at commencement for a term not exceeding two years. Not more than one alumni member shall be a resident of Monongalia County.

The student members of the board are elected by the student body by ballot. One member in full standing in the junior class, a candidate for a degree, is elected to serve two years at a poll held not later than June 1 of each year. All details of these elections are in the hands of the Inter-class Council in consultation with the President of the University.

MEDICAL SERVICE.

All men students in the University pay a medical fee of $2.00 each per semester, in return for which they receive free drug service from the department of pharmacy of the University, and free medical attention, including minor surgery (specialties excepted) from the faculty of the School of Medicine.

Students wishing to avail themselves of the dispensary will report at the dean's office in the Medical Building where a physician will be on duty from 10 to 12 a. m. and from 2 to 5 p. m. daily, and Saturday morning from 10 to 12. It is expected that students shall obtain these services at the dispensary, unless they are unable to leave their rooms, when a physician will attend them at their residences. Students unable to leave their rooms can obtain such services by telephoning to the Medical Building (No. 444) during office hours, or to the dean at his home (No. 244-J).

Summer School students and those coming in for only one class, or some special class, are exempted from the payment of the medical fee if they so desire.

UNIVERSITY FEES AND EXPENSES.

GENERAL FEES.

In the College of Arts and Sciences, the College of Engineering and in the College of Agriculture tuition is free to West Virginia students. For students not residents* of West Virginia the tuition fees are $30.00 for the semester, or $60.00 for the year ~~if paid in advance~~.

In the College of Law and the School of Medicine the tuition fees are $15.00 a semester, or $30.00 a year, for resident students, and $30.00 a semester, or $60.00 a year ~~if paid in advance~~, for non-resident students.

The matriculation fee is $5.00, payable upon entering the University, by all students except cadets and those whose work is exclusively in music.

The contingent fee is $6.00 a semester ,payable by all students ~~except cadets and~~ those whose work is exclusively in music.

The athletic fee is $1.00 ~~2.50~~ a semester, payable by all students except those whose work is exclusively in music.

The medical fee is $2.00 a semester, payable by all male students.

A fee of $2.00 each semester is charged for registration and the issuance of class cards. As a reward for prompt registration this fee is remitted to all students who procure class cards during the first three days of the first semester, and the first two days of the second semester. Students whose work is exclusively in music are excused from payment of the $2.00 registration fee.

Class officers will issue class cards only on presentation of the receipt for the above fees, signed by the registrar and the financial secretary.

SPECIAL FEES.

The diploma fee is $5.00, payable by all students at the beginning of the semester in which they expect to receive their degree or diploma.

A fee of $1.00 is charged for furnishing a copy of a student's record in the registrar's office after the regular semester reports have been issued.

Students in laboratory courses pay special fees to cover the cost of materials used. The amount of the fee is stated in the announcement of the course.

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*Students are considered to be resident students if at the time of their registration their parents or guardians have been residents and citizens of the State for at least one year. No non-resident student shall gain residence entitling him to reduction or exemption from tution merely by his attendance at the University.—Order of the Board of Education.

REFUNDING OF TUITION AND FEES.

Students who withdraw from the University for good and sufficient reasons during the first two weeks of the semester, will have their fees refunded upon making application to the President.

Students who have paid tuition for the year and who for any reason cannot attend during the second semester, may have the excess paid above the amount of one semesters' tuition refunded, upon application.

COST OF A YEAR'S WORK.

Board and lodging may be obtained in Morgantown for from $5.00 to $8.00 a week. Furnished rooms may be obtained at from $1.50 to $3.00 a week with two in a room. Board in private families or in students' boarding clubs costs from $5.00 to $7.00 a week. A student's washing will cost usually from $10.00 to $18.00 a year, his textbooks from $8.00 to $30.00 a year, and his contingent and athletic fees from $6.00 to $11.00 a year. To these fixed charges must also be added matriculation, tuition, diploma, and laboratory fees, in the case of students who are required to pay them. Traveling expenses, clothing, and miscellaneous expenses will depend largely upon the tastes and habits of the individual. In general it may be said that the legitimate cost of a nine months' term of residence at the University ranges from $300.00 to $500.00, exclusive of traveling expenses.

ADMISSION TO THE UNIVERSITY.

METHODS OF ADMISSION.

Students are admitted to the University either by examination or on certificate from an accredited preparatory school. In the latter case the certificate must set forth the work of the student in detail. Diplomas or certificates of a general nature will not be accepted.

Candidates for admission to the University must be at least sixteen years of age. They must present certificates of good moral character and, if from other colleges or universities, must present letters of honorable dismissal.

Candidates for admission who do not present entrance certificates, or who come from other institutions of learning without letters of honorable dismissal, may, at the discretion of the registrar, be allowed to register provisionally. In every such case the registrar will make immediate inquiry of the institution from which the applicant comes and if satisfactory certificates of credits and good standing can not be obtained the registration will be cancelled and the fees paid by the applicant will be returned. A provisional registration will not ordinarily be continued for a longer period than one month.

NOTE:—A list of classified high schools in West Virginia may be found on page 57 of this bulletin.

ENTRANCE CREDITS.

In accrediting West Virginia high schools the University follows the classification made by the state supervisor of high schools who is also professor of secondary education in the university. High schools of the first class are supposed to offer sufficient work to enable their graduates to enter any college of the University. Graduates of schools of the second and third classes receive credit for the work certified, with the understanding, however, that no student may enter any college of the University with fewer than thirteen units credit.

Graduates of the state normal schools and of all other schools in good standing will receive credit for work properly certified.

The requirements for admission to the various colleges of the University are stated in terms of units.

A unit in any subject represents the amount of work that may be done in a standard high school in a year of thirty-six weeks, with five recitation periods of not less than forty minutes each, per week. In courses where laboratory work is required, from two to three hours of laboratory work is considered the equivalent of one hour of recitation, according to the amount of outside preparation required in connection with such work.

Certificates of entrance credits must be on the blank form prescribed by the Committee on Classification and Grades or on a similar form, so that credit values, in units, may be readily computed. These certificates should be sent in to the registrar at least two weeks before the applicant presents himself for matriculation. Failure to do this may result in vexatious delay in registration and may render the student liable to the payment of the $2.00 registration fee. After the certificate has been considered by the Committee on Entrance and the credits recorded, it is permanently filed in the registrar's office and becomes the property of the University.

For admission to the University the student must have credit for fifteen units of secondary school work, i. e., the work of a standard four-year high school.[1]

A. The following groups are required:
   (1) Four units of English.
   (2) Three units in one other subject.
   (3) Two units in a third subject.
   (4) Two units in a fourth subject.
   (5) Four units elective.

B. The work indicated in A must include: For admission to the College of Law: 2 units of Latin. For admission to the College of Engineering: 1½ units of algebra, 1 unit of plane geometry, and ½ unit of solid geometry. For admission to the School of Medicine: two units of Latin, one unit of history, one unit of algebra, and one unit of plane geometry.

C. Work in the following subjects not to exceed the number of units placed after each subject will be accepted:

English	4 units	Science[3]	
		Physics	1 unit
Foreign Languages[2]		Chemistry	1 unit
Latin	4 units	Biology	1 unit
Greek	3 units	Botany	1 unit
French	3 units	Geology	1 unit
German	3 units	Zoology	1 unit
Spanish	2 units	General science	1 unit
Italian	2 units	Physical geography	1 unit
		Physiology	1 unit
		Hygiene and sanitation	1 unit

[1] These admission requirements are effective from May 1, 1920, but graduates from high schools in 1919, 1920, or 1921 may, if they prefer, enter under the requirements as stated in the University catalogue for 1919-20.

[2] Not less than two units of one foreign language will be accepted for entrance.

[3] A group of two units in science may be made by combining one unit each of physics and chemistry or one unit each of any two of the following: biology, botany, zoology, geology. A group of three units in science may be made by combining one unit each of any three of the following: physics, chemistry, biology, botany, zoology, geology.

Mathematics	
Algebra	1½ units
Plane geometry	1 unit
Solid geometry	½ unit
Trigonometry	½ unit
History and Economics	
History	3 units
Civics	1 unit
Elementary economics and sociology	1 unit
Education	2 units
Drawing	
Free-hand drawing	1 unit
Mechanical drawing	1 unit
Vocational subjects (not to exceed four units in all.)	
Agriculture	3 units
Household arts	3 units
Manual training	3 units
Bookkeeping or bookkeeping and commercial arithmetic	2 units
Shorthand and typewriting	2 units
Commercial geography	½ unit
Commercial law	½ unit
Music:—violin, organ or piano	2 units

SPECIAL STUDENTS.

Persons who do not desire to become candidates for a degree, may, by permission of the Committee on Entrance and of the faculty or dean of the college which they wish to enter, be admitted as special students, subject to the following provisions:

1. Special students must as a rule be twenty-one years of age or over (twenty-two in the College of Law).
2. Special students must satisfy at least nine units of the requirements for admission, including two units of English. (For academic requirements for admission as special students in the College of Law see the announcements of that college.)
3. Every application for admission as a special student must be in writing, and must set forth fully the applicant's reason, together with a detailed statement of the studies he desires to pursue.
4. Special students are subjected in all respects to the usual rules relating to registration and scholarship. They may be assigned to classes for which they apply, it being understood, however, that admission to any class rests entirely with the instructor in charge and further, that admission to any class when so granted does not necessarily imply credit for prerequisites.

CONDITIONAL ADMISSION.

Persons who lack not more than two units of the regular entrance requirements of any college in the University may register as conditioned freshmen in that college.

ADVANCED STANDING.

Applications for advanced standing on account of work of college grade done before entrance to the University should be made to the registrar not later than two weeks after the applicant's matriculation. Certificates of college credits must be presented on a separate form from the entrance credits.

If no certificates are offered or if those offered are considered by the Committee on Entrance to be irregular or insufficient, the committee will arrange for an examination of the applicant. In this case the dean of the proper college will issue examination cards on which after examination the head of each department will report to the Committee on Entrance the numbers, names, and credit values of the courses, if any, for which the applicant is entitled to credit.

REGISTRATION.

Every student who registers at West Virginia University must fill out a student's registration blank at the office of the registrar in Woodburn Hall or at the ofifce of the dean of the college he desires to enter. Cadets should present themselves to the commandant in the Armory before coming to the registrar's office. The blanks of women students must be filled out in the Women's Parlor and approved by the dean of women.

This registration blank is then presented to the registrar, who will issue in return a card stating the amount of fees to be paid, the college which the student is to enter, and the name of the class officer or adviser.

The fees as indicated on this card must then be paid to the financial secretary at his office in Science Hall. His receipt is stamped on the card.

The receipted card is then presented to the class officer designated, who will take it up, assign the student to his proper classes, prepare a study list and issue class cards admitting to these classes.

These class cards are then taken to the proper instructors, who will take them up, sign the study list, and enroll the student in their classes. Cadets should obtain from the commandant in the Armory a blank requisition for text books, which blank is to be filled out by the various instructors and then presented at the bookstore in Martin Hall.

Finally the study list, properly signed by all instructors, must be returned to the class officer, who will then issue to the student a membership card, the possession of which entitles him to the use of the library, athletic privileges, and other rights and privileges as a University student. Registration is not completed until this card has been obtained.

All students are required to register at the beginning of each semester.

CLASSIFICATION AND SCHOLARSHIP.

THE CLASS OFFICER.

The duties of the class officer are as follows:

1. To assign the student to proper courses, and see that prescribed work is taken in order.

2. To supervise the selection of elective courses by the student.

3. To keep a record of the work done by the student and to recommend him to the dean of his college for his degree or diploma upon the completion of the work required for it. Not later than January 1 in each year the class officer must make to his dean a provisional recommendation for graduation of each student who expects to complete his work by the following commencement day. This provisional recommendation is to be accompanied by a report of the work already completed and by a schedule of the courses planned for the remainder of the year.

4. To have general oversight of the student's college life. The student will look to his class officer for advice and guidance in all matters pertaining to his work. Withdrawal from classes, changing from one class to another, etc., will always require the class officer's consent.

CREDITS.

A credit or semester-hour represents the amount of work done in one semester (eighteen weeks), in one recitation hour with two preparation hours a week. From two to three hours of laboratory work is considered equivalent to an hour of recitation, according to the amount of outside work assigned in connection with the laboratory hours.

Fewer than ten hours in an ancient or modern language will not be counted toward any University degree, diploma or certificate.

CLASSIFICATION.

No student shall be classified as a freshman or first year student who is conditioned in more than two units of entrance requirements.

The number of courses required for classification as a sophomore or second year, junior or third year, and senior or fourth year student varies in the different colleges.

First-year students in the School of Medicine, who have completed two years of academic work, have the rank of juniors.

First-year students in the College of Law, who have completed one year of academic work, have the rank of sophomores.

Classification of students for publication in the catalogue will be made on the basis of the work to their credit on November 1, of each year, except in the case of students entering later in the year.

MAXIMUM AND MINIMUM WORK.

A maximum and minimum number of hours for which a student may register in any one semester is established for each college. A student desiring to do irregular work, more or less than the prescribed number of hours in any college, must obtain permission from the committee on students' courses and hours in that college.

Registration for more than the specified maximum work shall be permitted only for the removal of conditions or better adjustment of schedules and not in any case for the purpose of shortening the time regularly required for the work of the degree sought by the student.

SUBSTITUTION FOR REQUIRED COURSES.

A student who desires to substitute another course in place of any course prescribed in his curriculum or required for the degree toward which he is working, must obtain permission for such substitution from the committee on students' courses and hours in his college, but there can be no substitution from group to group. For list of groups see announcements of various colleges.

CHANGES IN REGISTRATION.

The permission of both class officer and instructor shall in all cases be necessary for the withdrawal of a student from any course or for his transfer from one course to another. After the first six weeks of the semester have elapsed the permission of the committee on students' courses and hours in the college concerned must also be obtained. If a student discontinues a course without permission his standing in that course is reported to the registrar as zero.

A change from one major subject to another in the same college will require the consent of the committee on students' courses and hours in that college. A change of major will not be permitted after the completion of the junior year.

Students may be transferred from one college to another with the approval of the deans of the respective colleges, but in all cases such students must meet the requirements of the curriculum of the college entered.

No permission to do irregular work more or less than the prescribed number of hours, to make substitutions for required work, or to make any change of registration as above stated is valid until

such permit has been reported to the Committee on Classification and Grades for approval and record or until notice of the action taken has been given to the student either by his class officer or by the secretary of the committee.

WITHDRAWAL FROM THE UNIVERSITY.

A student desiring to withdraw from the University must apply to the President, or, in his absence, to the registrar, for permission. When the withdrawal permit has been secured it must be presented by the student to his class officer, who will approve it and forward it to the registrar. Students who withdraw from the University without permission will have their grades reported as zero at the end of semester and will then be liable to indefinite suspension.

ABSENCES.

Students are required to be present at every recitation and examination of the courses for which they are registered. Punctuality, regular attendance, and attention to the work of the class room will be largely considered in determining the class grade of the student.

Students who find it necessary to be absent from Morgantown while the University is in session must secure permission, in advance from the President, or, in his absence, from the registrar.

Cadets who wish a leave of absence from duty or who desire to withdraw from the University temporarily during their term of enlistment must apply to the commandant for a furlough.

Any student who has seven unexcused absences is debarred from attendance at all classes until he has been restored to good standing by the President.

At the close of each day all absences are reported by the instructors to the registrar. Special absence report cards are used for this purpose. All excuses for absence should be made to the registrar within five days after the absence occurs. Women students, before going to the registrar, should first present their excuses to the dean of women. In cases of illness a certificate from the University Dispensary physician or other practicing physician of the city is required. Every unexcused absence effects a reduction of one per cent. in the student's final grade for the course.

In case of absences at the beginning of either semester a deduction of two per cent. from the final grade in every subject is made for each exercise missed, for all absences not more than seven in number, unless such absences are excused by the Committee on Classification and Grades. If the absences are more than seven in number full credit for the course is not given, unless such absences are excused by the committee and the work missed made up to the satisfaction of the instructor. Excuses for such absences must be presented to the committee on special blanks furnished for that purpose.

EXAMINATIONS AND GRADES.

Method of Grading. In practically all the courses offered in the University the student receives both a preliminary or mid-semester grade and a final grade. According to the system of grading employed 100% is regarded as a perfect grade and 70% as a passing grade. The mid-semester standing of the student is based on the daily recitation grades and on a special test given during one or more regular recitation periods. Mid-semester grades are not entered on the registrar's record. The final grade is based on the class standing for the entire semester and on a written final examination to which a special period of two or three hours is devoted. The last week in each semester is given up to these final examinations.

Absence from Examination. If the student attends the course throughout the semester and is absent from examination without permission, the instructor shall count the examination as zero, and report the final grade as one-half the recitation grade. If the student is absent from examination for reasons satisfactory to the instructor and has a recitation grade of eighty-five or over, the instructor may report the recitation grade as the final grade in the subject. If the recitation grade is under eighty-five, and the absence is for satisfactory reasons, the fact will be recorded on the student's class card and on the class officer's record, and the student may on application to the instructor obtain permission to take the examination at a later time.

Reports. Instructors must report all grades to the proper class officers on the class cards presented by the students at their entrance to the course. Mid-semester grades must be reported on or before the "Day for Mid-semester Reports," as announced in the calendar. Final grades for the students in each course must be reported within two days after the close of the final examination in that course. In no case should instructors report a grade as "incomplete' or hold it over to a later time. Each class card except in cases of absence from examination as provided above, must bear a definite percentage grade. The class officers will enter these grades on their reports and present the latter to the registrar not later than the Monday following the close of the mid-semester or the final examination period.

At the mid-semester report period the class officer should return the class cards to the various instructors immediately after recording the grades. After the final grades have been reported and recorded at the end of the semester the class officer should retain the class cards in his files for at least four years before destroying them.

Conditions and Failures. If the final grade of any student for any course is below sixty, it shall be recorded as a "failure," and the

student must take the course again if he desires credit for it. If the final grade is sixty, or over, but below seventy, it shall be recorded as a "condition," and the student shall have the privilege of a second examination. Request for such a second examination must be made to the instructor not later than ten days after the opening of the succeeding semester and the examination must be taken at the time designated by him. A condition not removed within the semester following the one in which it was imposed becomes a failure. If the final grade after a second examination is again below seventy, it shall be recorded as a "failure.'

Reports to Parents. A report of each student's work is made at the close of each semester, either to the student himself or to his parent or guardian. A complete record is also kept in the registrar's office. The fee for making a copy of this record after the semester reports have been sent out is one dollar.

In case where a student's work is unsatisfactory as shown by the mid-semester test, a mid-semester report will also be made both to the parent or guardian and to the student.

SUSPENSIONS.

1. Any student who fails either to make a standing of seventy per cent in courses amounting to at least half of the total number of semester hours for which he is registered, or to make an average standing of at least sixty per cent, in all of his courses for any semester is suspended from the University for the succeeding semester. If, however, the failure as above is due to the abandonment of any class, or to withdrawal from the University without permission, or to absence from examination without reasonable excuse, the suspension becomes indefinite.

Any student whose average standing in all studies as shown by the preliminary or mid-semester report is less than fifty per cent is suspended from the University for the remainder of the semester.

2. If a student suspended by the operation of the above rule reenters the University and again becomes subject to it, his suspension becomes indefinite.

WORK DONE OUT OF RESIDENCE.

The doing of regular residence courses **in absentia** is discouraged. In case of courses begun at the University and not completed by reason of illness or otherwise, however, permission to complete the work **in absentia** under the direction of the regular University instructors may be granted by the Commission on Classification and Grades; but in such cases credit shall be given only upon report of a grade of not less than eighty per cent on final examination.

The foregoing statement does not apply to University Extension Courses.

DEGREES.

All University degrees are conferred by the State Board of Education upon recommendation of the University faculty. Degrees are granted only once in each year at the annual University commencement.

The names of all students who are to appear as candidates for degrees in any year must be presented by their respective class officers to the dean of the college not later than January 1. All students who intend to present themselves as candidates for degree in any year should as a rule, therefore, give notice of their intention to their respective class officers not later than December 1.

BACCALAUREATE DEGREES.

Credits Required.

The various baccalaureate degrees conferred by the University and the number of semester hours of work required for each degree are as follows:

Bachelor of Arts, (A.B.)
- Regular course ---------- 128 Hrs.

Bachelor of Science, (B.S.)
- Combined course for A.B. and LL.B. degrees 124 Hrs.
  (96 hours in College of Arts and Science and first year course, 28 hours, in College of Law.)
- Combined course, preliminary to degree in medicine ---------- 136 Hrs.
  (64 hours in College of Arts and Science, and two years work, 68 to 72 hours, in School of Medicine.
- Combined course preliminary to degree in Engineering ---------- 128 Hrs.
- Bachelor of Laws ---------- 118 Hrs.
  (32 hours in the College of Arts and Science and 86 hours in the College of Law.)
- Bachelor of Science in Mechanical Engineering, (B.S.M.E.) ---------- 148 Hrs.
- Bachelor of Science in Civil Engineering, (B.S.C.E.) ---------- 148 Hrs.
- Bachelor of Science in Electrical Engineering, (B.S.E.E.) ---------- 148 Hrs.
- Bachelor of Science in Engineering of Mines, (B.S.E.M.) ---------- 148 Hrs.

Bachelor of Science in Chemical Engineering,
(B.S.Chem.E) ----------148 Hrs.
Bachelor of Science in Agriculture, (B.S.Agr.) 144 Hrs.
Bachelor of Science in Home Economics,
(B.S.H.E.) ----------128 Hrs.

Requirements as to Residence.

Students who come to the University from other colleges or universities are advised to make the transfer not later than the beginning of the junior year and in no case will a student who matriculates in the University later than October 1 in any year be permitted to receive a degree at the next commencement.

In special cases students who desire to leave the University at the close of the junior year to enter another institution with the purpose of taking a combined course leading to two degrees or of preparing for graduate study may, upon application beforehand to the Committee of Classification and Grades, be permitted to do the work of the senior year, or a part thereof at such other institution and to receive the bachelor's degree from the University upon the presentation of the proper credits.

In no case, however, will a student be granted a bachelor's degree from this University who has not done either a total of ninety hours of his work or the last thirty hours of it in actual residence at the University.

GRADUATE DEGREES.

The University does not confer the degree, Doctor of Philosophy, but will certify to other institutions such graduate work as may be applicable toward this degree.

The University confers the following master's degrees: Master of Arts (A.M.), Master of Science (M.S.), Master of Science in Mechanical Engineering (M.S.M.E.), Master of Science in Civil Engineering (M.S.C.E.), Master of Science in Electrical Engineering (M.S.E.E.), Master of Science in Engineering of Mines (M.S.E.M.), and Master of Science in Agriculture (M.S.Agr.). A master's degree is conferred upon the following conditions:

Candidacy.

1. A candidate for a master's degree must hold a bachelor's degree from West Virginia University or from another institution in which the requirements are substantially equivalent. He must have completed all the essential requirements for the bachelor's degree corresponding to the master's degree for which he applies.

Those who wish to become candidates but lack undergraduate preparation will be admitted to graduate study, but must at once make up their deficiencies by taking the necessary undergraduate courses. On completion of such undergraduate courses they become eligible to candidacy.

Those who have received their bachelor's degree and wish to broaden their education without reference to a higher degree, will be admitted to graduate study without restriction as to courses.

Seniors in the colleges of West Virginia University who have completed the work fo rthe bachelor's degree but who have not yet received the degree, may have work credited toward the master's degree at the discretion of the Committee on Graduate Work.

2. **Application for Admission.** Students who desire to register for graduate courses leading to a master's degree should submit their applications for admission to candidacy to the degree to the Committee on Graduate Work, either in person or by letter, some weeks prior to the opening of the semester in which they desire to register. Blank forms can be obtained on application. The application must be in the hands of the Committee at the time when the student presents himself for registration in the courses which he desires to take for graduate credit and not later than October 1 in the college year in which he desires to have the degree conferred.

In his application the student must announce his choice of a major subject and must submit a general outline of his proposed course of study. The major subject chosen must be either the same as the undergraduate major or one in which the candidate has an equivalent undergraduate preparation.

The Special Sub-Committee.

If the student is accepted as a candidate for the master's degree the Committee on Graduate Work will appoint a special sub-committee of three professors, including the profesors in charge of the work in the candidate's major and related subjects, whose duties shall be: (a) to arrange a specific course of study; (b) to act as advisors, (c) to examine and pass upon the thesis should one be required; and (d) to conduct the final examination.

Requirements for the Degree.

1. **Term of Residence.** A candidate must pursue graduate courses in residence at the University for at least thirty-six weeks after the completion of the work for his undergraduate degree.

2. **Course of Study.** The candidate must do thirty-two hours of graduate work, which at the discretion of the department in which he has chosen his major subject may or may not include a thesis. At least ten hours, exclusive of thesis, shall be in the candidate's major subject and any remaining hours in subjects related thereto.

Courses primarily designated for graduate students and distinctly senior courses open to graduates, are indicated in the catalogue, but other advanced courses and special research courses not listed in the catalogue may be credited with the approval of the Committee on Graduate Work. In some instances advanced undergraduate courses, not regularly open to graduates, may be aproved for graduate work with reduced credit; but elementary courses are never credited.

No work done before the completion of the work required for the bachelor's degree will be credited toward the master's degree unless the work has been regularly approved by the committee.

The specific course of study must be presented to the Committee on Graduate Work for its approval within two weeks after the acceptance of the student's application.

NOTE—Since the principal aim of graduate study is the development of the knowledge necessary to do independent work and the promotion of the spirit of research, each candidate for a degree is expected to have a wide knowledge of his subject and of related fields of work and to pursue a course of related reading and study in addition to his University work.

3. **Thesis.** A statement of the general subject of the thesis, with the written aproval of the chairman of the special committee, must be furnished to the Committee on Graduate Work within six weeks after the acceptance of the student's application. The thesis shall show acceptable investigation in the major subject. It shall be prepared under the direction of the department in which the student has chosen his major and shall be submitted for approval to the special committee at least four weeks previous to the commencement day at which the degree is expected. The thesis shall be presented in such form as may be prescribed by the Committee on Graduate Work. If the thesis is approved, two typewritten or printed bound copies shall be deposited in the University Library at least one week before the degree is conferred.

4. **Final Examination.** The final examination of the candidates shall be oral and shall cover the major and related courses and thesis, or such part thereof as the special committee may deem desirable. This examination shall be open to the public and shall be held at least three weeks before the commencement day on which the degree is expected. The Committee on Graduate Work shall delegate one of its members to attend the examination.

The special committee shall report their opinion of the thesis and the result of the examination of the candidate to the Committee on Graduate Work at least ten days before commencement.

NOTE—For announcement concerning professional degrees in the College of Engineering, see the announcements of that college.

GENERAL INFORMATION

DISCIPLINE.

The rules and regulations which students are required to observe are few, simple and reasonable; civil and orderly conduct; punctuality and regularity in attendance upon all required exercises; reasonable diligence in the performance of the work prescribed, and abstinence from vices.

Students who do not comply with these requirements will not be allowed to remain in the University.

All matters of discipline are in charge of the President of the University in consultation with the dean of the college or head of the division of the University in which the student concerned is enrolled.

THE CONVOCATION.

The University Convocation is held every Wednesday morning at ten o'clock in Commencement Hall, under the direction of the Chaplain of the University. No classes or other University exercises are held at this hour, and opportunity is afforded for all members of the University, both instructors and students, to attend the meeting. The hour is occupied by lectures and addresses, discussion of student interests and problems, and the consideration of questions relating to the general University welfare.

In connection with the weekly convocation brief devotional exercises are held. The singing at these exercises is in charge of the Director of the School of Music. Attendance is entirely voluntary.

CHRISTIAN ASSOCIATIONS.

The Young Men's Christian Asociation is a voluntary association of college men for the purpose of promoting and directing widely varied student activities from a religious motive.

Membership is open to all men of the University. The annual membership fee is $2.00.

The administrative policy is directed by the student cabinet, and by the faculty advisory board. A secretary is employed to assist in directing the work. The office and reading room is in Commencement Hall.

Weekly devotional meetings are held. Other features of the work are the Bible Study courses which enroll a large number of men; the Employment Agency; Boarding and Rooming House Directory; the publication of the University Directory and Handbook. All correspondence should be directed to the General Secretary, C. A. Steepleton.

Membership in the Young Women's Christian Association is open to all young women in the University. Regular devotional meetings are held weekly.

PHI BETA KAPPA.

The Alpha of West Virginia Chapter of the Phi Beta Kappa Society is established at the University. Stated meetings or public exercises of the Society are held twice annually: the anniversary meeting on December 5, and the annual meeting during Commencement week. The honor of membership may be conferred upon candidates for the degree of Bachelor of Arts who have maintained a high scholarship rank during their college course; also upon members of the faculty and alumni of the University, and upon distinguished citizens of the state. The president of the chapter for the year 1920 is Professor Waitman Barbe; the secretary, Professor E. H. Vickers.

THETA PSI.

The Theta Psi Honorary Engineering Fraternity is an organization to which students in the Colege of Engineering may be elected upon the attainment of certain specified high standards of scholarship in undergraduate courses. Elections are held each fall on the basis of grades attained in the work of the previous year.

STUDENT ORGANIZATIONS.

There are in the University various societies and clubs, devoted chiefly to the educational, social and athletic interests of the students. Several Greek letter fraternities and sororities have established chapters at the University and most of these occupy their own chapter houses.

Some of the more important of the student organizations are:

1. The Columbian Literary Society. Regular meetings every Friday night in its own hall in Martin Hall. Membership open to all students of the University.

2. The Parthenon Literary Society. Regular meetings every Friday night in its own hall in Martin Hall. Membership open to all students of the University.

3. The University Dramatic Club. The purpose of this organization is to stimulate an interest in literary and dramatic work in the University. This is accomplished through the practical and systematic study of standard plays, and through the public presentation of at least one play in each college year. All University students are eligible to membership in the Dramatic Club, but those desiring

to enter must pass a series of tests under the direction of the professor of public speaking.

4. The Crucible. Membership open to advanced students in the department of chemistry. Meetings on the first and third Fridays of each month at 4:30 p. m.

5. The Engineering Society. Regular meetings the first and third Friday nights of each month in its room in Engineering Hall. Membership open to all students in the Colege of Engineering and Mechanic Arts.

6. The University Grange, Number 373, Patrons of Husbandry. Regular meetings on alternate Wednesday evenings. Membership open to al students in the College of Agriculture and to others who may be elected.

7. The English Club. Regular meetings on the first Thursday night of every month.

8. The Beowulf-Gedriht. Regular meetings in October, November, February, April and May. Open to all members of the University upon the fulfillment of certain scholarship qualifications.

9. The Agricultural Association. An organization of the students of the College of Agriculture to promote their general interests. Meetings on first Thursday of each month.

11. West Virginia University Scientific Society. Regular meetings on the last Friday night of every month. Membership is open to members of the faculty giving instruction in scientific subjects, local investigators in scientific subjects, teachers of science in the public schools, and graduate students in science in attendance at the University.

12. Glee and Mandolin Clubs. Places on these clubs are open to all male students and are gained in the "try-outs" in September of each year. An annual tour is arranged by a student manager for the advertisement of the University. The Director of the School of Music is the Musical Director.

13. The University Choir. This organization under the direction of the Director of the School of Music is composed of about thirty selected voices and sings in the weekly Convocation exercises. Special appropriate programs are presented at festival seasons.

14. The Education Club. The purpose of the club is to develop and maintain a professional attitude in those who are preparing for education work, to study the needs of schools, and to contribute to the advancement of education. Regular meetings are held on the fourth Thursday night of each month.

15. American Institute of Electrical Engineers. West Virginia University Branch. Meetings monthly. Membership open to students in the Department of Electrical Engineering.

16. The Witena-Gemot. A student society in the College of Law. Membership is based upon scholarship.

STUDENT PUBLICATIONS.

The Athenaeum, a weekly college newspaper, is published by the Students 'Publishing Association. The editorial staff of the paper is elected by this association at its annual meeting on the third Saturday in May. Nominations must be made from an eligible list published by the department of English at least two weeks before the annual meeting. No student will be included in the eligible list who has not attained the rank of sophomore or who has not made an excellent standing in two or more courses in English composition.

The College Annual, The Monticola, is published by the junior class.

All student publications are under the supervision of a faculty committee on student publications.

STUDENT SOCIAL LIFE.

The general oversight of the social activities of the student body and of fraternity and sorority life in the University is placed in the hands of committees of the faculty. The Committee on Fraternities and the Committee on Sororities are constituted in accord with the following order of the Board of Education:

(1) No fraternity nor sorority, other than those now in existence in the University shall be established without the consent of the University Council of Administration. Application for this consent shall be made by a petition signed by all of the students interested.

(2) No student shal be initiated into any fraternity or sorority, nor reside in any fraternity house, until such student has been in residence at the University one full semester, and has received credit on the records of the University for not less than twelve semester hours of work done in the University classes; nor shall any student be initiated into any fraternity or sorority ,who has not full college standing. The requirement of one semester's residence will be waived in the case of a student coming into the University from any other university or colege, and receiving advanced standing sufficient to give a classification of sophomore or higher.

(3) Each fraternity at the beginning of each scholastic year, shall designate two of its members as a committee to represent the fraternity in all matters calling for conference with the President of the University or University authorities. Each sorority shall likewise select a committee of two to represent it in such conferences. Each fraternity and sorority shall certify to the registrar the names of the members chosen for its committee within two weeks after the opening of the fall semester of each year.

(4) The President of the University shall appoint a member of

the faculty as a faculty representative for each fraternity, and in making such appointment he shall consult with the committee of each fraternity provided for in Rule 3. He shall in like manner appoint a faculty representative for each sorority. Wives of members of the faculty may be apointed by the President as faculty representatives of sororities.

It shall be the duty of the faculty representative to keep in touch with the life and work of the fraternity or sorority, and to be the representative of the University under the direction of the President in all matters that may arise between the University and the fraternity or sorority. The faculty representatives of fraternities shall constitute a general committee of the faculty on fraternities, and the faculty representatives of sororities shall constitute a like committee on sororities.

(5) No person who is not a student of the University shall be initiated into any fraternity or sorority without the permission of the University Council of Administration.

(6) All efforts of fraternities or sororities to secure new members commonly known as "rushing" shall be under such regulations as may be agreed on by the fraternities and sororities. In the event of no agreement by fraternities or sororities, such regulations shall be made by the faculty committee on fraternities or the faculty committee on sororities in consultation with the fraternity or sorority committees, as provided in Rule 3 of this order. When approved by the Council of Administration such regulations shall be in full force and effect.

The social life of the students in the University is under the general supervision of the faculty Committee on Social Affairs. This committee has supervision of every social function given by the University or by any organization within it, including fraternities, sororities and other student societies. Such socal functions as balls, dances, picnics, excursions and receptions are supervised by this committee. The committee approves all dance programs, supervises the issuance of invitations for functions of a general University nature and sees that all social affairs held in the University are properly conducted.

In the performance of its duty the committee is governed by the following general regulations of the Board of Education:

(1) No indoor social function shall be given by the University or any of its departments or organizations in any other place than in University buildings. For this purpose, houses occupied by chartered fraternities or sororities, and the University leased dormitories shall be considered University buildings.

(2) No social affairs at night, of which dancing is a feature, shall be permitted to continue longer than 1 a. m. and this hour is allowable only in formal or 'full program" affairs. Ordinary parties, dances, etc., must close not later than 11:30 p. m. Picnics, excursions, boat rides, etc., extending into the night, must be so arranged that the return to the University shall not be later than 11:30 p. m.

WOMEN'S STUDENT GOVERNMENT ASSOCIATION.

All women students of the University whose homes are not in Morgantown, whether they live in the Women's Hall, in sorority houses or in rooming houses in town, are members of the Student Government Association. The purpose of this association is to regulate all matters pertaining to the student life of its members, to further in every way the spirit of unity among the women of the University, to increase their sense of responsibility, and to be a medium for maintaining a high scholastic standard.

The association has the following officers: A president and a vice-president elected from the senior class; a secretary elected from the sophomore class, and a treasurer elected from the freshman class. The vice-president is also house president. The four officers together with one representative from each sorority, the young women who are at the head of the sororities, an equal number of non-sorority members, one member from the Young Woman's Christian Association, and one from the freshman class constitute the executive board in which is vested the administration of the association. This board is responsible to the faculty advisory board of the association for all matters pertaining to the social life of the students.

The advisory board consists of the dean of women and two other members of the faculty appointed by the President of the University.

THE DEAN OF WOMEN.

All the interests of the women students of the University are in charge of a special executive officer of the University, the dean of women. She is a member not only of the advisory board of the Student Government Association but also of the faculty Social Committee. Thus she is cognizant of all social activities engaged in by women students. The dean is a resident of the Women's Hall, where she comes into intimate personal relation with the young women and has immediate supervision of their social life.

THE WOMEN'S HALL.

The rooms in the Women's Hall accommodate 104 young women; the dining rooms nearly 300. Miss Susan Maxwell Moore, dean of women, is in charge of the hall. The Women's Hall Annex on Willey street affords rooms for 40. Mrs. Bertha Browning Purinton, the assistant to the dean of women, is in charge of the Annex. Those desiring information as to prices, board, or available rooms, either in the main dormitory or the Annex, should apply to Miss Moore.

OTHER ROOMING PLACES FOR WOMEN STUDENTS.

With the approval of the dean of women young women students whose parents are not residents of Morgantown and who can not find accommodation in the hall, may secure rooming and boarding places with private families in the town. Such students are expected to conform to the usual hall rules regarding callers and hours and are not permitted to change their places of residence, to be absent from Morgantown, or from their own rooms over night, without the permission of the dean of women.

BOARDING AND ROOMING PLACES.

The matter of furnishing information to new students regarding suitable boarding and rooming places is in charge of the Y. M. C. A. and Y. W. C. A. of the University. On their arrival in Morgantown new students should come directly to Woodburn Hall, where they will find complete lists of rooms and boarding places and also upper classmen who will help them in finding lodgings and in matriculating. During the opening days of the semester, committees from the two Christian Associations meet new students at trains and are ready to render them every assistance possible.

Young men desiring information in advance of their arrival in Morgantown, may address the University Y. M. C. A., Morgantown, W. Va. Young women may address Miss Susan M. Moore, Dean of Women.

AID FOR STUDENTS.

The Employment Bureau, organized by the University Y. M. C. A., undertakes to assist earnest and worthy students who are dependent upon their own efforts for the expenses of their education, to obtain various forms of employment in Morgantown. Prospective students desiring such aid should write to C. A. Steepleton, Secretary of the Y. M. C. A., before entering the University, stating the kind of work desired and the nature of past experience in any occupation. The work consists largely in waiting on table, caring for rooms and lawns, clerking in stores, stenographic services, etc.

PRIZES.

Awards for prizes in the University are made in accordance with the following rules:

No manuscript in whole or in part, shall be submitted in competition for two prizes.

Only students pursuing courses leading to baccalaureate degrees

are eligible for any prize offered, except for the James F. Brown prize.

No student shall be eligible to enter any contest who has not been a resident student in this University for at least one semester preceding the semester in which the contest is to be held ,and who, unlss he be a competitor for the James F. Brown prize, is not a resident student in good standing in the University in the semester in which the contest is held.

No successful contestant may become for a second time a competitor for the same prize.

If in any contest the judges find no manuscript of sufficient merit, there shall be no award of that prize for that year.

Students intending to compete in any essay-writing contest must notify the chairman of the Committee on Prizes not later than March 15. Three typewritten copies of each essay must be in the hands of the chairman of the committee not later than May 15.

The conditions upon which the awards in the several contests are made may be learned upon application at the President's office, or to the members of the Committee on Prizes:

The more important prizes offered in the University are:

The Bryan Prize in Political Science.

The Hon. William J. Bryan has given a sum of money, the annual income of which is to be offered as a prize to the student in the University who shall write the best essay on some subject in the science of government. The amount of the prize for the present is $15.00. The subject for 1920-21 is: "The expediency of a general municipal incorporation law for cities in West Virginia."

The Tax Commission Prize.

The members of the State Tax Commisison of 1902, W. P. Hubbard, Henry G. Davis, John K. Thompson, L. J. Williams and J. H. Holt, have given the sum of $1,350, the income of which is to be used annually as a prize for the "best original work bearing on matters of taxation in West Virginia." The conditions of competition are determined by the Council of Administration. The amount of the prize at present is $70.00. The subject for 1920-21 is: "How the budget provisions of West Virginia may be improved."

The Russell Love Morris Prize.

Russell Love Morris, C. E., Profesor of Civil Engineering, offers a prize of fifty dollars annually to the student of civil engineering who presents the best thesis on some subject of special application to the needs and resources of West Virginia.

The James F. Brown Prize.

Mr. James F. Brown, an alumnus of the University, "with a desire to stimulate the young men of the State to fuller consideration of the 'inalienable rights' of mankind, and especially those guaranteed by the Constitutions of the State and of the United States," has contributed to the University the sum of five thousand dollars to be invested and the income is to be "used as a prize for the best essay or paper each year on the subject of the individual liberties of the citizen as guaranteed by the constitution." The income may be given as a single prize, or it may be divided into a first and a second prize. For the present the award will be made as a single prize. It will be first offered in the academic year 1920-1921. Any senior or any graduate of any college of the University, within one year after receiving any bachelor's degree, may compete for this prize. But no holder of any graduate degree may become a competitor.

The George C. Baker Prizes.

Mr. George C. Baker, an alumnus of the University, has offered to contribute the sum of one hundred dollars to be given as prizes during the current academic year for purposes and subject to conditions below explained.

1. "In order to encourage public speaking," to the student in and department of the University writing the best oration and delivering the same, a prize of forty dollars in gold; and to the second best, a prize of ten dollars in gold; provided, that there be at least three contestants and that no oration exceed fifteen minutes in length.

2. "To the best trained private in the cadet corps, a prize of fifteen dollars in gold, taking into consideration the year's military work of such cadet and also his drilling for the prizes during Commencement week; to the second best private in the cadet corps, a prize of ten dollars in gold; these prizes are to be awarded by a committee of military men."

3. "To the best student in agriculture during the year a prize of fifteen dollars in gold; to the second best, a prize of ten dollars in gold."

Inter-Fraternity Scholastic Trophies.

Arleigh Lee Darby, Associate Profesor of Romance Languages, offers a silver cup known as the Inter-Fraternity Scholastic Trophy. It is awarded at the end of the year to the fraternity having the highest average scholarship standing for that year and remains in the possesion of that fraternity during the following year. The cup becomes the permanent property of the fraternity that first wins it three times.

Aaron Arkin, Professor of Pathology and Bacteriology offers a silver cup to be called the "Inter-Sorority Scholastic Trophy." This

prize will be awarded at the end of the academic year to the sorority having the highest average scholarship standing for the year. It will be in possession of that sorority for the following year. The cup will become the permanent property of the sorority that first wins it five times.

BUREAU OF RECOMMENDATION.

The Bureau of Recommendation, under the direction of the Department of Education, has for its aim:

1. To keep a record of the students or alumni of the University who wish to teach, to gather information as to their academic and profesional qualifications and personal fitness for school work, and to recommend for vacancies those who seem most likely to prove themselves efficient.
2. To keep a similar record of alumni who wish to be transferred to other positions.
3. To assist boards of education and other school officials in securing teachers, and to co-operate with teachers' agencies in placing graduates of the University.

Students desiring recommendation for positions as teachers should take at least twenty hours in education. Those desiring recommendation for a position in a normal school or as principal or superintendent of schools should take at least thirty hours in education.

No student is assured of a position. General letters of recommendation are not given to students. Information obtained from professors and others is regarded as confidential. No charge is made for any services rendered. Blanks for registration will be furnished on application. The following is the committee on recommendation: President Trotter, Professor Friend, Professor Winkler, Associate Professor Hill, Professor Cavins and Professor Deahl, secretary.

HIGH SCHOOL AND SUPERVISOR'S CERTIFICATES.

Graduation from the University with not less than twenty semester hours in education will secure recommendation for high school and for supervisor's certificates according to the following regulations:

1. No courses in education will be counted as part of the twenty hours unless approved by the Department of Education.
2. Persons who have received advanced standing in education must do at least ten semester hours in regular college courses. These courses must not repeat those taken in another school and they must be advanced work.
3. Only a limited number of hours done in the summer school may be counted toward certification.
4. Candidates for certification must demonstrate their fitness for recommendation by successful teachining in Education 10 or 22.
5. For the supervisor's certificate not les than five hours must be taken in administration and supervision.

SCOPE OF THE ENTRANCE REQUIREMENTS.

The following description indicates the extent of preparation expected in each of the several subjects offered for entrance credit for admission to the various colleges of the University.

ENGLISH.

Grammar and Elementary English. No student will receive full entrance credit in English whose work shows marked deficiency in spelling, punctuation, grammar, sentence structure, or paragraphing. The student should be prepared to state intelligently the essential principles of English grammar and to explain the syntactical structure of any sentence encountered in his reading. An elementary textbook on grammar should have been completed before the student enters upon his high school course. For more advanced study of the subject and for practical review, the material presented in the ordinary high school text-books on rhetoric may be utilized. The subject should be constantly reviewed in connection with the work in composition during the four years in the high school course.

Rhetoric and Composition. Systematic practice in theme writing and other forms of oral and written composition with instruction in the principles of rhetoric and the forms of discourse must form an important part of each unit of English. At least one theme weekly should be required throughout the course. Students who are not able to express themselves in clear, correct, and idiomatic English will not be given full credit. The subject upon which the student writes should not be drawn exclusively from literature. A considerable portion of them should be so distributed as to give proper training in the various forms of discourse.

Literature. In addition to the reading and study of English classics as outlined below, the student throughout his high school course should have opportunity to become familiar with the best magazines and newspapers and with the best current fiction and poetry.

The four units in English should include the following:

(a) One unit. English Classics and English Composition. The study of at least five English classics selected from the list below. The simplest narrative classics, both prose and poetry, should be selected. The aim of the work should be to stimulate interest in good literature and to enable the student to form vivid mental pictures and to understand fuly the thought expressed. The aim of the composition work should be to secure facility and accuracy. The

work should include letter writing, short themes in narration and description, and study of paragraphing and sentence structure.*

(b) One unit. English Classics and English Composition. Study of several other English classics. The work should include more complex forms of fiction and narrative poetry, simpler essays, and at least one of Shakespeare's plays.

(c) One unit. English Classics and English Composition. Reading and study of narrative and lyric poetry, of more difficult essays, and of several of Shakespeare's plays. In the work for both the second and the third units the aim should be to make a study of form, structure, style, and purpose of the selection; the author's life; relation of the selection to its age and to other works of similar type. For both units the work in composition should include themes of moderate length in all forms of discourse; study of unity, coherence, and emphasis in sentences and paragraphs; kinds of sentences; diction; figures of speech.

(d) One unit. Advanced study of Classics; Rhetoric. A thorough and intensive study of the form, structure, and style, of at least one typical example of the novel, the drama, the lyric or epic poem, and the essay. A study of the principles of rhetoric employing some good advanced high school text-book, with frequent and systematic theme writing, must form a part of this unit.

The following list of classics is suggested:

I. Longfellow's Evangeline and Courtship of Miles Standish; Whittier's Snow Bound; Lowell's Vision of Sir Launfal; Coleridge's Rime of the Ancient Mariner; Macaulay's Lays of Ancient Rome; Goldsmith's Deserted Village; Irving's Sketch Book; Hawthorne's Twice Told Tales; Franklin's Autobiography; Aldrich's Story of a Bad Boy; Warner's Being a Boy, A Hunting of the Deer, etc.; Burroughs' Sharp Eyes, Birds and Bees, etc.; Dickens' Christmas Carol; Stevenson's Treasure Island.

II. Stories from the Bible; Scott's Lady of the Lake, Marmion, Ivanhoe, Quentin Durward; George Eliot's Silas Marner; Goldsmith's Vicar of Wakefield; Mrs. Gaskell's Cranford; Cooper's Last of the Mohicans, The Spy, The Pilot; Blackmore's Lorna Doone; Dickens' Tale of Two Cities, David Copperfield; Arnold's Sohrab and Rustum; Byron's Mazeppa and the Prisoner of Chillon; Shakespeare's Merchant of Venice, As You Like It, Julius Caesar, Twelfth Night; Addison's De Coverly Papers; Thoreau's Succession of Forest Trees;

* Reading of good literature outside of class and memorizing of notable passages in prose and verse should be required, but outside reading accompanied by written reports or reviews made according to a stereotyped model, in place of a thorough study of assigned lessons, class instruction and discussion, will not be considered as satisfactorily fulfilling the requirement of any unit.

Stevenson's An Inland Voyage and Travels with a Donkey; Kipling's Captains Courageous.

III. Page's Red Rock; Churchill's Mr. Crewe's Career; Thompson's Alice of Old Vincennes; Norris' The Pit; Jackson's Ramona; Smith's Caleb West, Master Driver; Johnston's To Have and to Hold; Van Dyke's The Blue Flower and Other Stories; Mitchell's Hugh Wynne—Free Quaker.

IV. Novels; Thackery's Henry Esmond; George Eliot's Silar Marner or Romola; Jane Austin's Pride and Prejudice; Hawthorne's The House of the Seven Gables. Dramas: Shakespeare's Macbeth, Lear, or Henry V. Poems: Tennyson's Idylls of the King; Milton's Shorter Poems; Browning's Selected Poems; Palgrave's Golden Treasury. Essays: Lamb's Essays of Elia; Emerson's Essays; Ruskin's Sesame and Lilies; Carlyle's Heroes and Hero Worship; Essay on Burns; Macaulay's Essay on Addison and Life of Johnson; Washington's Farewell Address; Webster's Bunker Hill Oration; Lincoln's Gettysburg Speech, etc.

LATIN.

(a) One unit. Such knowledge of inflection and syntax as is given in any good preparatory Latin Book, together with the ability to read easy selections from Caesar.

(b) One unit. Four books from Caesar's Gallic War, or its equivalent in Latin of equal difficulty. The ability to write simple Latin based on the text.

(c) One unit. Six orations of Cicero. The ability to write simple Latin based on the text. The simpler historical references and the fundamental facts of Latin syntax.

(d) One unit. Six books of Virgil, with history and mythology. Scansion of hexameter verse. Either (c) or (d) may be offered for the third unit, but one year of composition must be included.

GREEK.

(a) One unit. Introductory lessons, elements of grammar; easy translations from the Anabasis: translation into Greek of easy continuous prose based upon the Anabasis.

(b) One unit. Xenophon, the first four books of the Anabasis.

(c) One unit. Homer, the first three books of the Iliad (omitting II-492 to end) and the Homeric constructions, forms and prosody; constant practice in sight and prose composition.

GERMAN.

(a) One unit. A thorough knowledge of elementary syntax; constant drill in pronunciation, oral translation, and composition; translation of seventy-five to one hundred pages; advanced syntax; composition throughout the year.

(b) One unit. Modern prose and familiar poems, two hundred pages; advanced syntax; intermediate composition throughout the year.

(c) One unit. Advanced prose, four hundred pages; advanced composition throughout the year.

FRENCH.

(a) One unit. (1) The essential principles of French etymology and syntax, and especially, a thorough knowledge of the pronoun and of the regular and irregular verb; (2) ability to write in French sentences of moderate difficulty; (3) the reading of from one hundred and fifty to two hundred pages of modern French prose; (4) ability to pronounce the language correctly and with some fluency.

(b) One unit. (1) Twenty pages of advanced prose composition; (2) at least three hundred pages of modern Franch prose; (3) at least three hundred pages of modern French plays.

HISTORY.

From one to three units may be offered, selected from the following:

(a) Ancient History to 800 A. D.—one unit.

(b) Mediaeval and Modern European History—one-half to one unit. The amount of credit will depend upon the time given to the subject.

(c) English History—One-half to one unit. The amount of credit will depend upon the time given.

(d) American History, or American History and Civics—one unit.

The student should be familiar with the important events and should have a clear knowledge of the general development of the period of history which he offers for credit.

A whole year that covers the whole field of general history with a good text-book and with notes on collateral reading and prepara-

tion of maps will be accepted as one unit, although it is believed that better results will be obtained by spending a whole year on ancient history and another year on the mediaeval and modern period.

American history and civics should be preceded by English history, and should not be given before the third year in the high school course, in case three years are given to history. Ancient history should be followed by English history in case mediaeval and modern history are not given.

The study of civics must not precede the study of American history; and, if studied as a separate branch following the course in American history, some advanced text such as Forman's Advanced Civics should be used. An outline knowledge of elementary civics, such as is presented in Forman's First Lessons in Civics, or in Peterman's Civics, is presupposed.

MATHEMATICS.

(a) Algebra through quadratics—one unit. The four fundamental operations for rational algebraic expressions; factoring, highest common factor, lowest common multiple, complex fractions, solution of equations of the first degree, radicals including the extraction of the square root of polynominals and numbers, fractional and negative exponents, quadratic equations, and equations containing one or more quadratic equations, and problems involving the use of such equations.

(b) Plane geometry—one unit. The completion of any standard text with original exercises and problems.

(c) Algebra—one-half unit. Review of essentials followed by ratio and proportion, the binominal theorem for positive and integral exponents, arithmetical and geometrical progressions.

(d) Solid geometry—one-half unit. Properties of straight lines and planes, dihedral and polyhedral angles, projections, polyhedrons, including prisms, pyramids, and the regular solids, cylinders, cones, and spheres, spherical triangles, measurements of surfaces and soils.

(e) Plane trigonometry—one-half unit. Definitions and relations of the six trigonometrical functions as ratios, proofs of important formulae, theory of logarithms and use of tables, solution of right and oblique plane triangles.

SCIENCE.

(a) Physics—one unit. Credit will be given for one year's work with any standard text-book, upon the presentation of a satisfactory

note-book, covering at least thirty-two experiments. The note book should contain the student's own record of his laboratory experiments and a signed statement from his teacher that the book is the original record of the student's observations. Students deficient in laboratory work may make up this deficiency in the University.

(b) Chemistry—one unit. Credit will be allowed for the completion in a satisfactory manner of any standard elementary text in inorganic chemistry, accompanied by individual laboratory work. A full year should be given to the work.

(c) Botany—one unit.

(d) Zoology—one unit.

Work in either botany or zoology, to be credited, must have been accompanied by individual laboratory work. The exact extent of the work which should be done cannot be stated here, but, for the maximum credit, it should be as much as a competent teacher, trained in laboratory methods, can accomplish in from one to one and one-half years. In estimating the time employed, two hours of laboratory work will be counted as the equivalent of one recitation period. It will be necessary for applicants to present their laboratory notes and drawings.

In botany the class should cover the ground of Coulter's "A Text Book in Botany," or Bergen's "Foundation of Botany," or their equivalent.

In zoology the class work should cover about what is represented in Kellogg's 'Elementary Zoology" (Henry Holt), or in Parker and Haskell's Zoology, one-volume edition (Macmillan & Co.). The amount of laboratory work that should be done is somewhat less than is outlined in Scheffer's manual (Blakiston).

(e) Biology. A half year of botany and a half year of zoology each accompanied by individual laboratory work.

(f) Physical Geography—one-half unit.

(g) Physiology—one-half unit.

Credit for one-half unit each in physical geography and physiology will be allowed—as elective only—if taught in a scientific manner in an accredited or recognized secondary school. The use of a standard text should be supplemented by proper illustrative methods and proper observation. One-half year must be given to each subject.

MUSIC.

½ unit for each year of work satisfactorily completed.

The University will accept for entrance credit applied music study, i. e., the study of piano, organ, or instrument of the symphony orchestra, when carried on outside the schools under private instruction, provided that the plan outlined by the School of Music of the University has been followed. This plan and full information may be obtained by addressing the Extension Department, School of Music, West Virginia University.

The work in music should be along the lines followed in "The School Credit Piano Course" or similar text. Examinations are based on the outline issued by the School of Music.

OTHER ENTRANCE SUBJECTS.

More complete information regarding the nature of the preparation required for entrance credit in other high school subjects may be found in the "Course of Study for the Junior and Senior High Schools of West Virginia," published by the State Board of Education, Charleston, 1919.

CLASSIFIED HIGH SCHOOLS, 1919-1920.

HIGH SCHOOLS OF FIRST CLASS.

Adamston (conditional), Coal district, Harrison County
Alderson, Alderson independent district, Greenbrier County
Beckley, Town district, Raleigh County
Belington, Belington independent district, Barbour County
Benwood, Union district, Marshall County
Berkeley Springs, Bath district, Morgan County
Berwind, Big Creek district, McDowell County
Blacksville (conditional), Clay district, Monongalia County
Bluefield, Beaver Pond district, Mercer County
Bramwell, Rock district, Mercer County
Bridgeport, Bridgeport independent district, Harrison County
Bristol, Ten Mile district, Harrison County
Buckhannon, Buckhannon independent district, Upshur County
Cairo, Grant district, Ritchie County
Cameron, Cameron district, Marshall County
Ceredo, Ceredo-Kenova independent district, Wayne County
Charles Town, Charles Town district, Jefferson County
Charleston, Charleston independent district, Kanawha County
Charleston (colored), Charleston independent district, Kanawha County
Chester, Chester independent district, Hancock County
Clarksburg, Clarksburg independent district, Harrison County
Clay, Clay County high school, Clay County
Clendenin, Big Sandy district, Kanawha County
Cowen, Glade district, Webster County
Davis, Davis district, Tucker County
East Bank, Cabin Creek district, Kanawha County
Elkins, Elkins independent district, Randolph County
Fairmont, Fairmont independent district, Marion county
Fairview, Paw Paw district, Marion County
Farmington, Lincoln district, Marion County
Flemington, Flemington district, Taylor County
Follansbee, Cross Creek district, Brooke County
Gary, Adkin district, McDowell County
Gassaway, Otter district, Braxton County
Grafton, Grafton independent district, Taylor County
Greenbank, Greenbank district, Pocahontas County
Griffithsville, Duvall district, Lincoln County
Harpers Ferry, Harpers Ferry district, Jefferson County
Harrisville, Harrisville independent district, Ritchie County
Hedgesville, Hedgesville district, Berkeley County
Hillsboro, Little Levels district, Pocahontas County
Hinton, Hinton independent district, Summers County
Huntington, Huntington independent district, Cabell County
Huntington (colored), Huntington independent district, Cabell Co.
Iaeger (conditional), Sandy River district, McDowell County
Jane Lew, Jane Lew independent district, Lewis County
Keyser, Keyser independent district, Mineral County
Kingwood, Kingwood district, Preston County
Littleton, Clay district, Wetzel County

Logan, Logan district, Logan County
Lost Creek, Grant district, Harrison County
Lumberport, Eagle district, Harrison County
Mannington, Mannington district, Marion County
Martinsburg, Martinsburg independent district, Berkeley County
Masontown, Valley district, Preston County
Matewan (conditional), Magnolia district, Mingo County
Marlinton, Edray district, Pocahontas County
Matoaka, Rock district, Mercer County
Middlebourne, County high school, Tyler County
Milton, Grant district, Cabell County
Monongah (conditional), Lincoln district, Marion County
Moorefield (conditional), Moorefield district, Hardy County
Morgantown, Morgantown independent district, Monongalia County
Moundsville, Moundsville independent district, Marshall County
Mount Hope, Fayetteville district, Fayette County
Newburg, Lyon district, Preston County
Newell (conditional), Grant district, Hancock County
New Cumberland, New Cumberland independent district, Hancock County
New Martinsville, Magnolia district, Wetzel County
Northfork (conditional), Northfork district, McDowell County
Oak Park, Wheeling, Triadelphia district, Ohio County
Oak Hill, Fayetteville district, Fayette County
Parkersburg, Parkersburg independent district, Wood County
Parkersburg (colored), Parkersburg independent district, Wood County
Parsons, Blackford district, Tucker County
Paw Paw, Cacapon district, Morgan County
Pennsboro, Clay district, Ritchie County
Piedmont, Piedmont district, Mineral County
Pine Grove, Grant district, Wetzel County
Point Pleasant, Point Pleasant independent district, Mason County
Princeton (conditional), East River district, Mercer County
Pullman, Union district, Ritchie County
Ravenswood, Ravenswood independent district, Jackson County
Reader, Green district, Wetzel County
Richwood, Richwood independent district, Nicholas County
Ripley (conditional), Ripley independent district, Jackson County
Rivesville, Paw Paw district, Marion County
Romney, Romney district, Hampshire County
Ronceverte, Fort Spring district, Greenbrier County
Salem, Salem independent district, Harrison County
Sherrard, Union district, Marshall County
Shinnston, Clay district, Harrison County
Sistersville, Sistersville independent district, Tyler County
Smithfield (conditional), Grant district, Wetzel County
Spencer, Spencer independent district, Roane County
Sutton, Sutton independent district, Braxton County
St. Albans, St. Albans independent district, Kanawha County
St. Marys, Washington district, Pleasants County
Summersville, County High School, Nicholas County
Terra Alta, Portland district, Preston County
Thomas, Fairfax district, Tucker County
Tunnelton, Kingwood district, Preston County

Wadestown, Battelle district, Monongalia County
Warwood, Wheeling, Richland district, Ohio county
Webster Springs, Fork Lick district, Webster County
Weirton, Butler district, Hancock County
Welch, Browns Creek district, McDowell County
Wellsburg, Wellsburg independent district, Brooke County
West Milford, Union district, Harrison County
Wheeling (colored), Wheeling independent district, Ohio County
White Sulphur Springs (conditional), White Sulphur district, Greenbrier County
Williamson, Williamson independent district, Mingo County
Williamstown, Williams district, Wood County

HIGH SCHOOLS OF THE SECOND CLASS.

Albright, Portland district, Preston County
Wheeling, Wheeling independent district, Ohio County
Weston, Weston independent district, Lewis County
West Union, West Union independent district, Doddridge County
Ansted, Mountain Cove district, Fayette County
Beverly, Beverly district, Randolph County
Bunker Hill, Mill Creek district, Berkeley County
Burnsville, Burnsville independent district, Braxton County
Fairmont (East Side), Union independent district, Marion County
Clarksburg (colored), Clarksburg independent district, Harrison County
Dunleith, Ceredo district, Wayne County
Eccles (conditional), Trap Hill district, Raleigh County
Elk Garden, Elk district, Mineral County
Fairmont (colored) (conditional), Fairmont independent district, Marion County
Fayetteville, Fayetteville district, Fayette County
Flatwoods, Flatwoods independent district, Braxton County
Franklin, Franklin district, Pendleton County
Gap Mills, Sweet Springs district, Monroe County
Kermit (conditional), Kermit district, Mingo County
Kimball (colored), Browns Creek district, McDowell County
Lewisburg, Lewisburg independent district, Greenbrier County
Man, Triadelphia district, Logan County
Mason, Mason independent district, Mason County
Mullens (conditional), Slab Fork district, Wyoming County
Mt. Hope (colored), (conditional), Fayetteville district, Fayette County
Northfork (colored), Northfork district, McDowell County
Petersburg, Petersburg independent district, Grant County
Peterstown, Red Sulphur district, Monroe County
Philippi, Philippi independent district, Barbour County
Rowlesburg, Reno district, Preston County
Union (conditional), Union district, Monroe County
Wallace, Sardis district, Harrison County
Williamsburg, Williamsburg district, Greenbrier County
Wyatt (conditional), Eagle district, Harrison County

HIGH SCHOOLS OF THE THIRD CLASS.

Barracksville, Fairmont district, Marion County
Buckhannon (colored), Buckhannon independent district, Upshur County
Burchfield, Grant district, Wetzel County
Chattaroy, Lee district, Mingo County
Danville, Scott district, Boone County
Dunbar, Union district, Kanawha County
Elizabeth (joint district high school) Elizabeth district and Elizabeth independent district, Wirt County.
Fellowsville, Reno district, Preston County
Friendly, Union district, Tyler County
Gary (colored), Adkin district, McDowell County
Great Cacapon, Cacapon district, Morgan County
Hamlin, Carroll district, Lincoln County
Hinton (colored), Hinton independent district, Summers County
Leetown (R. F. D. Kearneysville), Middletown district, Jefferson County
Lenore, Hardee district, Mingo County
Morgantown (colored), Morgantown independent district, Monongalia County
Nemours, Beaver Pond district, Mercer County
New Haven, Graham district, Mason County
Oceana, Oceana district, Wyoming County
Pineville, Center district, Wyoming County
Renick, Falling Spring district, Greenbrier County
Sardis, Sardis district, Harrison County
Simpson, Court House district, Taylor County
Spanishburg, Rock district, Mercer County

THE COLLEGE OF ARTS AND SCIENCES

THE FACULTY.

FRANK BUTLER TROTTER, LL.D., *President*

JAMES MORTON CALLAHAN, PH.D., *Dean and Professor of History and Political Science*

DANIEL BOARDMAN PURINTON, LL.D., *President and Professor of Philosophy, Emeritus*

JAMES SCOTT STEWART, B.S., *Professor of Mathematics, Emeritus*

ROBERT WILLIAM DOUTHAT, PH.D., *Professor of Latin, Emeritus*

ALEXANDER REID WHITEHILL, PH.D., *Professor of Chemistry*

SAMUEL BOARDMAN BROWN, A.M., *Professor of Geology and Mineralogy*

ROBERT ALLEN ARMSTRONG. L.H.D., *Professor of the English Language and Literature*

ALFRED JARRETT HARE, A.M., *Professor of the Latin Language and Literature*

FREDERICK WILSON TRUSCOTT, PH.D., *Professor of Germanic Languages and Literature*

JASPER NEWTON DEAHL, PH.D., *Professor of Education*

JOHN HARRINGTON COX, A.M., *Profesor of English Philology*

JOHN ARNDT EIESLAND, PH.D., *Professor of Mathematics*

ALBERT MOORE REESE, PH.D., *Professor of Zoology*

OLIVER PERRY CHITWOOD, PH.D., *Professor of European History*

CHAUNCEY WILLIAM WAGGONER, PH.D., *Professor of Physics*

MADISON STATHERS, PH.D., *Professor of Romance Languages*

WAITMAN BARBE, LITT.D., *Professor of English*

ENOCH HOWARD VICKERS, A.M., *Professor of Economics and Sociology*

LLOYD LOWNDES FRIEND, A.M., *Professor of Secondary Education*

CHARLES EDWARD BISHOP, PH.D., *Professor of the Greek Language and Literature*

JOSEPH ELLIS HODGSON, PH.D., *Professor of Mathematics*

FRIEND EBENEZER CLARK, PH.D., *Professor of Chemistry*

CHARLES BENTON CANNADAY, A.M., *Professor of Latin*

CHARLES HENRY AMBLER, PH.D., *Professor of History (Extension)*

LORIMER VICTOR CAVINS, A.M., *Professor of Education*

WILBUR JONES KAY, A.M., *Professor of Public Speaking*

CHARLES McKEE CANTRALL, A.M., *Professor of Philosophy and Psychology*

HARLAN HARVEY YORK, PH.D., *Professor of Botany*

SIMEON CONANT SMITH,[1] A.M., *Associate Professor of Rhetoric*

ARLEIGH LEE DARBY, A.M., *Associate Professor of Romance Languages*

DAVID DALE JOHNSON, A.M., *Associate Professor of English*

BENJAMIN TOWNE LELAND, A.M., *Associate Professor of Industrial Education*

LAWRENCE BENJAMIN HILL, A.M., *Associate Professor of Education*

FLOYD EARLE CHIDESTER, PH.D., *Associate Professor of Zoology*

RODERICK DUNCAN McKENZIE, A.B., *Associate Professor of Sociology*

LONNA DENNIS ARNETT, PH.D., *Librarian and Instructor in Library Science*

BENJAMIN WALTER KING, A.M., *Assistant Professor of Economics*

HUBERT HILL, M.S., *Assistant Professor of Chemistry*

SAMUEL MORRIS, A.M., *Assistant Professor of Chemistry*

CHESTER PENN HIGBY, PH.D., *Assistant Professor of History*

ANTONIO JOSEPH PROVOST, B.L., *Assistant Professor of Romance Languages*

OTTO STUHLMAN, PH.D., *Assistant Professor of Physics*

EARL READ SCHEFFEL, PH.D., *Assistant Professor of Geology*

M. PAUL ROCHAT, M.A., *Assistant Professor of French*

EDWARD NOEL ROBERTS, PH.D., *Assistant Professor of Chemistry*

EDWARD SWITZER ALLEN, PH.D., *Assistant Professor of Mathematics*

HARVEY CARSON GRUMBINE, PH.D., *Assistant Professor of English*

GEORGE ROGERS BANCROFT, PH.D., *Assistant Professor of Chemistry*

ROBERT CLIFON SPANGLER, A.M., *Instructor in Botany*

REBECCA LUELLA POLLOCK, A.M., *Instructor in English*

CHARLES BYRON JOLLIFFE, B.S., *Instructor in Physics*

EDGAR WILLIAMS, A.M., *Instructor in English*

WALTER SPRAGUE FROST, A.M., *Instructor in Chemistry*

ALLEN EDGAR STEARN, PH.D., *Instructor in Chemistry*

CHARLES CHAPMAN SNOW, A.M., *Instructor in Chemistry*

CLARA LYTLE, A.B., *Instructor in English*

ELIZABETH DEE FROST, A.M., *Instructor in English*

MARJA BROWN STEADMAN, A.B., *Instructor in English*

EVA MYRTLE FLING, A.B., *Instructor in Botany*

ESTHER WAGNER STEARN, A.B., *Assistant in Chemistry*

ALLEN GUY MONTGOMERY, A.B., *Student Assistant in Mathematics*

CLAIRE FISHER, A.B., *Student Assistant in Mathematics*

GREEK SAYRE, A.B., *Student Assistant in History*

HELEN PETTIGREW, A.B., *Student Assistant in English*

CHARLES LESTER LAZELLE, A.B., *Student Assistant in Chemistry*

GEORGE ANDREW FEDERER, Jr., *Student Assistant in Chemistry*

HERMAN E. WILSON, *Student Assistant in Chemistry*

CLARENCE DANIEL LUTHER ROPP, *Student Assistant in Chemistry*

CLARENCE ANTHONY McMURRER, *Student Assistant in Chemistry*

CECIL ORVAL RIGGS, *Student Assistant in Chemistry*

VERNON COMPTON, *Student Assistant in Zoology*

GERTRUDE MARTIN, *Student Assistant in German*

BRADFORD NOYES, Jr., *Student Assistant in Physics*

JAMES WOOD CLARKSON, *Student Assistant in Physics*

ENTRANCE REQUIREMENTS.

For admission to the College of Arts and Sciences the student must have credit for fifteen units of secondary school work, i. e., the work of a standard four-year high school.[1]

A. The following groups are required:
   (1) Four units of English.
   (2) Three units in one other subject.
   (3) Two units in a third subject.
   (4) Two units in a fourth subject.
   (5) Four units elective.

B. Work in the following subjects not to exceed the number of units placed after each subject will be accepted:

English	4 units	Science[3]	
		Physics	1 unit
Foreign languages[2]		Chemistry	1 unit
Latin	4 units	Biology	1 unit
Greek	3 units	Botany	1 unit
French	3 units	Geology	1 unit
German	3 units	Zoology	1 unit
Spanish	2 units	General science	1 unit
Italian	2 units	Physical geography	½ unit
		Physiology	½ unit
Mathematics		Hygiene and sanitation	1 unit
Algebra	1½ units		
Plane geometry	1 unit	Vocational subjects(not to exceed	
Solid geometry	½ unit	four units in all.)	
Trigonometry	½ unit	Agriculture	3 units
		Household arts	3 units
History and economics		Manual training	3 units
History	3 units	Bookkeeping or bookkeeping and commercial arithmetic	2 units
Civics	1 unit		
Elementary economics and sociology	1 unit	Shorthand and typewriting	2 units
Education	2 units	Commercial geography	½ unit
		Commercial law	½ unit
Drawing			
Free-hand drawing	1 unit	Music:—violin, organ or piano	2 units
Mechanical drawing	1 unit		

[1] These admission requirements are effective from May 1, 1919, but graduates from high schools in 1919, 1920, or 1921 may, if they prefer, enter under the requirements as stated above.

[2] Not less than two units of one foreign language will be accepted for entrance.

[3] A group of two units in science may be made by combining one unit each of physics and chemistry or one unit each of any two of the following: biology, botany, zoology, geology. A group of three units in science may be made by combining one unit each of any three of the following: physics, chemistry, biology, botany, zoology, geology.

REQUIREMENTS FOR DEGREES.

BACCALAUREATE DEGREES.

Only one baccalaureate degree is regularly conferred in the College of Arts and Sciences, that of Bachelor of Arts.

The degree of Bachelor of Science is conferred only as a first degree upon candidates who are pursuing either the combined science and engineering course, the combined science and agricultural course, or the combined scientific and medical course. See page 10.

Amount of Work Required.

The "semester hour" is the standard for computing the amount of work required for graduation in the curricula leading to these degrees. The "hour" represents the amount of work done in one semester (eighteen weeks) in one recitation hour with two preparation hours a week. No student is permitted to register for less than fourteen hours or more than seventeen hours of work in any one semester.

The baccalaureate degree in the College of Arts and Sciences is conferred upon any student who complies with the general regulations of the University concerning degrees as announced on page —, satisfies all entrance requirements, and secures credit for one hundred and twenty-eight semester hours selected in accordance with following provisions.

The Major Subject.

At the beginning of the sophomore year the student must select as his major study one of the following subjects:

English	History	Botany
Public Speaking	Political Science	Zoology
Greek	Economics	Entomology
Latin	Sociology	Geology
German	Physics	Education
French	Chemistry	Philosophy
Italian	Mathematics	Home Economics
Spanish		

The head of the department to which this major subject belongs becomes the student's class officer. The major requirement is 30 hours, which may be either 30 hours in the one major subject or 20 to 25 hours in that subject with 5 to 10 hours in another subject closely related. The class officer may designate the courses to be taken in the major and the allied subjects and may require at least 25 hours in the one subject. Additional courses in the major subject

or in the allied subject may of course be taken as elective if the student so desires. The maximum amount of credit allowed in any one subject is 36 hours.

Special Requirements.

For Students Who Desire The Degree of A.B.

During his course each student must take courses in each of eight groups of subjects as shown below:

1. English composition (English 1 and 2)_____ 6 Hrs.
   English literature (English 26 and 27)_____ 4 "
2. One foreign language_____20 "
3. History and political science, or economics and sociology _____ 8 Hrs.
4. Physics, chemistry, or mathematics; any one 8 "
5. Botany, zoology, geology or entomology; any one _____ 8 "
6. Education, philosophy, public speaking; any one _____ 8 "
7. Military science (when required)_____ 4 "
8. Electives; not less than_____32 "

   NOTE.—At least five hours must be taken in each subject offered as an elective, except that not more than eight hours of credit in isolated courses of less than five hours credit value each, elected with the approval of the class officer, may be offered.

Students who do not offer two units of language for entrance must do twenty-six hours of one language in college instead of twenty. Fewer than ten hours of one language will not be counted for credit unless the student has offered two units of the same language for entrance.

For Students Who Desire to Take a Combined Course in Two Colleges in Six Years.

Students who desire to secure the B.S. degree and then take a bachelor's degree in the college of Engineering may complete the work for both degrees in six years or less by following the curriculum outlined on Page 160. Those who desire to secure the B.S. and B.S.Agr. degrees in a similar time must follow the curriculum outlined on Page 210.

Students who desire to secure the B.S. degree with a view to proceeding to the study of medicine and who announce this intention on entering the freshman class will be excused from the foregoing general requirements and may secure the degree of B.S. by taking sixty-four hours of work in the College of Arts and Sciences as outlined on page 266 and the course in the School of Medicine as outlined on pages 266-67.

Elective Courses.

The remaining work necessary to make up the total of one hundred and twenty-eight hours required of candidates for the bachelor's degree, may be selected from any of the courses offered in the College of Arts and Sciences. Work not to exceed fifteen hours in the College of Law, the College of Agriculture, the College of Engineering of the School of Music may be included in the list of elective credits offered by students in the College of Arts and Sciences. The total number of hours elected from other colleges shall not, however, exceed twenty-four in all. For detailed statements of the courses open to such election in each college ,see the announcements of that college.

Classification of Students.

To be classified as a conditioned freshman in the College of Arts and Sciences a student must have credit for at least thirteen units of entrance requirements; to be classified as a regular freshman he must have fulfilled all entrance requirements and have credit for twenty-five hours of college work; as a junior, fifty-eight hours; as a senior, ninety-two hours.

GRADUATE DEGREES.

There are two advanced degrees conferred in the College of Arts and Sciences: Master of Arts and Master of Science. For the conditions upon which these degrees are granted see page 37 of the catalogue.

EXTENSION COURSES.

As a part of the University Extension Service The College of Arts and Sciences during the years 1916-1920 has conducted at several centers in various parts of the State extension courses for which regular college credit has been given. The extension instructors have had headquarters at Moundsville, Parkersburg, and Wheeling. The work given in the extension courses corresponds in every particular, as to class requirements and credit, with that given in similar courses on the campus. Similar extension courses will be provided in other parts of the state as the resources of the University will permit.

The giving of extension courses is subject to the following conditions: (1) Courses will not be organized at any place unless the demand is sufficient to justify it. (2) Courses offered by resident instructors will be given in Morgantown and in nearby places easy of access, generally on Friday afternoons and Saturdays. (3) Regular extension instructors will offer courses only in such places as can be reached from their headquarters.

The Extension Service has seventy-five reels of picture film which it distributes to the schools of the state under certain conditions.

This service will be extended as soon as other films can be secured.

COURSES OF INSTRUCTION.

In the following announcements each course described counts for the number of hours in parentheses after the name of the course. The semester during which the course is given, the hour, the name of the instructor, and class room are usually stated at the end of the announcement of each course. A complete statement of these details is to be found in the Schedules of Courses published by each college at the beginning of each semester. For convenience it is customary to designate the courses of study by the name of the department and the number of the particular course. Thus the course in psychology is known as "Philosophy 1"; the course in plane trigonometry is known as "Mathematics 4"; the course in electrical measurements is known as "Physics 10"; etc. The abbreviations used are W., Woodburn Hall; S., Science Hall; M., Martin Hall; M. H., Mechanical Hall; C., Commencement Hall; A., Agricultural Building; E., Experiment Station Building; G., Gymnasium; L., Library; H., Horticulture Building; M. B., Medical Building.

AGRICULTURAL EDUCATION.

16. **High School Agriculture** (3 Hrs.)
Second semester; T. Th., 9:00; T., 2:00; Professor WINKLER.

35. **Methods in Agricultural Extension** (2 Hrs.)
Second semester; T. Th., 11:00.

Credit will also be given in the College of Arts and Sciences for Course 1 in the history of Agricultural education offered in the College of Agriculture. For detailed announcements of all these courses see the announcements of that college.

AGRONOMY.

Credit will be given in the College of Arts and Sciences for Courses 2 and 21 in agronomy in the College of Agriculture. See the anouncements of that college.

ANIMAL INDUSTRY.

Credit will be given in the College of Arts and Sciences for Courses 40, 42, 43, 45 and 46 in animal husbandry. and Course 21 in dairy husbandry in the College of Agriculture. See the announcements of that college.

BOTANY.

Professor YORK, Mr. SPANGLER, and Miss FLING.

The courses in botany are designed to meet the needs of four classes of students:

(1) Those who wish to learn something about the nature of plants and their relation to every day life. Courses 20, 21, 24, 5, 26, and 27 are recommended.

(2) Those who plan to return to the farm or become closely affiliated with some phase of agriculture. Courses 20, 21, 12, 12, 14, 15, 24, 29, and Bacteriology 10 are recommended.

(3) Those who intend to teach botany or agriculture in secondary schools. Courses 20, 21. 24, 5, 26, 27, 28, and Bacteriology 10 are recommended.

(4) Those who wish to engage later in graduate study preparatory to the pursuit of investigational work in the U. S. Department of Agriculture, or in experiment stations, or to become college teachers. See Courses 20, 21, 22, 23, 13, 14, 15, 16, 26, 27, 5, and Bacteriology 10 are recommended.

NOTE: For description of botanical laboratory, see catalogue, page 22.

1. **General Botany.** (4 Hrs.) Plant Biology. A general cultural course which also affords a preliminary training for those who wish to take up further work in pure or applied botany. A general survey of the plant kingdom. The plants studied serve as a basis for the study of the general biological principles fundamentally related to human welfare. Two lecture periods and two three-hour laboratory periods each week. Laboratory fee, $2.00.

First semester; Professor YORK and staff; A.

Sections for students in home economics; lectures, M. F., 8:00; laboratory, M. F., 2:00.

Sections for students in agriculture; lectures, T. Th., 8:00 and 9:00; laboratory, M. F. S., 9:00 and T. W. Th., 2:00.

Sections for students in the College of Arts and Sciences and in the course in pharmacy; lectures, M. W., 9:00; laboratory, M. W., 2:00.

2. **General Botany.** (4 Hrs.) Plant Biology. A continuation of Course 1. A collection of fifty plants is required. Lecture and laboratory hours and sections as in Course 1. Laboratory fee, $2.00.

Second semester; Professor YORK and staff; A.

NOTE: Courses 1 and 2 are prerequisite for all other courses in botany except Courses 24 and 25 and Bacteriology 10.

20. **Physiological Anatomy.** (4 Hrs.) A study of the place and mode of origin, minute structure and function of the tissues in flowering plants; methods in microtechnique. Two lecture periods and two three-hour laboratory periods weekly. Laboratory fee, $2.50.

First semester; M. F., 10:00; Th. F., 2:00; Professor YORK and staff; A.

21. **Physiological Anatomy.** (4 Hrs.) Continuation of Course 20. Laboratory fee, $2.50.

Second semester; M. F., 10:00; Th. F., 2:00; Professor YORK; A.

12. **Plant Physiology.** (5 Hrs.) Absorption, relation of soil and solutes to the plant, transpiration, photosynthesis, assimilation, respiration, growth, and reproduction. The course furnishes a basis for the study of principles fundamental in the growing of plants. Prerequisite: Course 20. Three lecture periods and two three-hour laboratory periods each week. Laboratory fee, $2.50.

First semester; M. W. F., 11:00; M. W., 2:00; Professor YORK; A.

16. **Advanced Physiology.** (2 Hrs.) A study of the response of the plant to external stimuli. Prerequisite: Course 12. Six hours' work in the laboratory each week. Laboratory fee, $2.50.

Second semester; hours to be arranged; Professor YORK and staff.

14. **Plant Pathology.** (5 Hrs.) The symptoms of disease in plants; identification of bacteria and fungi which cause disease in our most common native and introduced plants; their manner of infection and their effects on their hosts; methods of prevention and control. Prerequisite: Course 12. Two lecture periods and two three-hour laboratory periods each week. Laboratory fee, $2.00.

Second semester; M. W., 11:00; M. W., 2:00; Professor YORK; A.

15. **Plant Pathology.** (5 Hrs.) Diseases of shade, ornamental, and forest trees; methods of culture and inoculation employed in the laboratory in connection with the study of plant diseases. Prerequisite: Course 14. Two lecture periods and nine hours in the laboratory each week. Laboratory fee, $2.50.

First semester; lectures, T. Th., 4:00; laboratory hours to be arranged; Professor YORK and staff.

22. **Morphology and Phylogeny.** (4 Hrs.) Morphology of the thallophytes and bryophytes; critical study of typical examples designed to lead the student to an understanding of the morphology of the principal groups in these divisions and also to an interpretation of the principles of evolution as seen in the plant kingdom. Laboratory fee, $2.50.

First semester; lectures, W. S., 8:00; laboratory hours to be arranged; Mr. SPANGLER.

23. **Morphology and Phylogeny.** (4 Hrs. A continuation of Course 22. Study of pteridophytes and spermatophytes. Laboratory fee, $2.50.

Second semester; lectures, W. S., 8:00; laboratory hours to be arranged; Mr. SPANGLER; A.

24. **Trees.** (2 Hrs.) The more common native and introduced trees of West Virginia; their structure and economic value; the making of seed-beds; transplant beds and forest tree plantings. The laboratory is done largely in the field.

Second semester; lectures, W., 8:00; laboratory hours to be arranged; Professor YORK.

5. **Systematic Botany.** (3 Hrs.) A study of ferns and seed plants primarily from the standpoint of identification and classification with the aid of a manual. Both wild plants of this region and those of economic importance are considered. A collection is required. After April 1 most of the class work is done in the field.

Second semester; M. W. F., 4:00; Professor YORK and Miss FLING.

Bacteriology.

10. **Bacteriology.** (3 Hrs.) The nature of bacteria; what they are, how they live; methods of growing and studying them. Two lecture periods and one three-hour laboratory period each week. Laboratory fee ,$2.50.

First and second semesters; lectures, T. Th., 11:00; laboratory, T. or Th., 2:00; Mr. SPANGLER; A.

CHEMISTRY.

Professor CLARK, Professor WHITEHILL, Assistant Professors HUBERT HILL, SAMUEL MORRIS, and ROBERTS, Mr. FROST, Mr. SNOW, DR. STEARN and MRS. STEARN.

General Chemistry.

NOTE: Courses starred are required of major students.

*1. **Inorganic Chemistry.** (4 Hrs.) Primarily for freshmen in all the colleges. Prerequisite to all other courses in chemistry. Three recitation periods and two two-hour laboratory periods weekly. Laboratory fee, $5.00.

Section A, for students who offer chemistry for entrance credit.

Section B, for students who do not offer chemistry for entrance

Section C, for students who offer neither chemistry nor high-school mathematics for entrance credit.

First semester; hours as announced in the semester schedule; Profesor CLARK and staff.

*2. **Inorganic Chemistry.** (4 Hrs.) A continuation of Course 1. Sections and recitation hours as in Course 1. Laboratory fee, $5.00.

Second semester; hours as announced in the semester schedule; Professor CLARK and staff.

NOTE:—One unit of algebra and one unit of plane geometry are prerequisite for all courses in chemistry except Courses 1 and 2.

Qualitative and Quantitative Analysis.

*5. **Qualitative Analysis and Inorganic Preparations.** (4 Hrs.) Required of students whose major is chemistry and of students in chemical engineering. Three three-hour laboratory periods weekly with occasional recitations and assignments in addition. Laboratory fee, $12.00.

First semester; M. W. F.. 2:00; Assistant Professor HILL.

4. **Quantitative Analysis.** (2 Hrs.) Primarily for engineering students. Two three-hour laboratory periods wekely. Laboratory fee, $8.00.

First semester; hours as shown in semester schedule; Assistant Professors HUBERT HILL and SAMUEL MORRIS.

*6. **Quantitative Analysis.** (4 or 5 Hrs.) Required of students whose major is chemistry, of students in chemical and mining engineering. Students registered for the coal mining option will take only four hours credit. Four or five three-hour laboratory periods weekly. Laboratory fee, $10.00.

Second semester; 2:00; Assistant Professor HUBERT HILL.

*7. **Quantitative Analysis.** (4 Hrs.) A continuation of Course 6. Required of students whose major is chemistry and of students in chemical engineering. Prerequisites: Physics 1, 2, 3, and 4; Mathematics 3 and 4. Four three-hour laboratory periods weekly. Laboratory fee, $10.00.

First semester; M. T. Th. F., 2:00; Professor CLARK.

8. **Quantitative Analysis.** (5 Hrs.) An advanced course for major students. Five three-hour laboratory periods weekly. Laboratory fee, $12.00.

Second semester; 2:00; Professor CLARK.

25. **Quantitative Analysis.** (4 Hrs.) A course dealing exclusively with the analysis of foods. Prerequisite: Courses 6 and 9. Laboratory fee, $8.00.

Second semester; lectures, T. Th., 9:00; laboratory, T. Th., 2 to 5; Mr. SNOW.

18. Qualitative and Quantitative Analysis. (5 Hrs.) For students in the premedical and pharmacy courses. Five three-hour laboratory periods each week. Laboratory fee, $12.00.

First semester; 9:00; Assistant Professor HILL and Mr. SNOW.

11. Quantitative Analysis. (2 Hrs.) Open to seniors and graduate students. The course includes practice in the analysis of iron and steel, iron ores, limestone, sand, clay and other materials usually brought to the laboratory of an iron and steel works. Laboratory fee, $6.00.

First semester; T. Th., 2:00; Professor WHITEHILL; 21 S.

12. Quantitative Analysis. (2 Hrs.) Open to seniors and graduate students. Continuation of Course 11. Laboratory fee, $6.00.

Second semester; T. Th., 2:00; Professor WHITEHILL; 21 S.

Organic Chemistry.

3. Organic Chemistry. (2 Hrs.) An introductory course. Prerequisite: Chemistry 1. Experimental lectures and recitations.

Second semester; T. Th., 9:00; Professor WHITEHILL.

16. Organic Chemistry. (3 Hrs.) For students in agriculture and home economics. Laboratory fee, $5.00. Two recitations and one threehour laboratory period weekly.

First semester; T. Th., 9:00; M. or F., 2:00; Assistant Professor ROBERTS.

***9. Organic Chemistry.** (5 Hrs.) Required of students with major in chemistry, of students in chemical and in mining engineering, and of premedical and pharmacy students. Three lectures and two three-hour laboratory periods weekly. Laboratory fee, $12.00.

First semester, (for major students and for engineering students); M. W. F., 11:00; T. Th., 2:00; Professor CLARK.

Second semester, (for pre-medical and pharmacy students); M. W. F., 11:00; T. Th., 2:00; Professor CLARK and Assistant Professor ROBERTS.

***20. Organic Chemistry.** (5 Hrs.) Required of major students. For graduate students also. Two lectures and three three-hour laboratory periods weekly. Laboratory fee, $12.00.

Second semester; T. Th., 11:00; M. W. F., 2:00; Professor CLARK.

Industrial Chemistry.

19. Industrial Chemistry. (3 Hrs.) Open to major and graduate students and to students in chemical engineering. Laboratory fee, $5.00.

First semester; M. W. F., 9:00; Professor CLARK.

22. Industrial Chemistry. (3 Hrs.) Open to major and graduate students and to students in chemical engineering. Laboratory fee, $5.00.

Second semester; M. W. F., 9:00; Professor CLARK.

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*21. **Physical Chemistry.** (5 Hrs.) Required of major students. For graduate students and chemical engineering students also. Three lectures and two three-hour laboratory periods weekly Laboratory fee, $12.00.

Second semester; 2:00; DR. STEARN.

15. Special Work. Assignments not covered by the courses above outlined. Credit and hours to be arranged with individual students.

NOTE—A breakage deposit is required of all students taking laboratory courses.

ECONOMICS AND SOCIOLOGY

Professor VICKERS, Associate Professor MCKENZIE and Assistant Professor KING.

Instruction in this department is designed to meet three special needs of students: (1) Training for individual efficiency in getting a living under present economic and social conditions; (2) training which will enable students to understand the existing economic and social order—whence arise many urgent problems of the time—and intelligently to discharge their duties as citizens; (3) training to prepare those so electing to continue advanced study and specialization in economics and sociology.

Economics 1 and 2 will be helpful to students in all other courses in the department, and are specified prerequisites for entrance to most of these courses. They should therefore be taken first by all students who contemplate further work in economics and sociology. Courses in sociology should be deferred till the sophomore year. Sociology 1 is a prerequisite for all other courses in sociology except 6, 8, 10, 14 and 15.

Economics.

1. **Principles of Economics.** (3 Hrs.) A general course on fundamental principles governing consumption, production, distribution and exchange of wealth. Designed to be followed by Economics 2.

First semester; first section, M. W. F., 8:00; second section, M. W. F., 9:00; third section, M. W. F., 10:00; Professor VICKERS, 42 W., and Assistant Professor KING, 46 W.

2. **Principles of Economics.** (3 Hrs.) Continuation of preceding course. Prerequisite: Economics 1.

Second semester; first section, M. W. F., 8:00; second section, M. W. F., 9:00; third section, M. W. F., 10:00; Professor VICKERS, 42 W., and Assistant Professor KING, 46 W.

15. **Principles of Economics.** (3 Hrs.) A general course on fundamental principles which govern the consumption, production, distribution and exchange of wealth. Designed especially for students in the College of Agriculture. Open also to sophomores and more advanced students who cannot take both Economics 1 and Economics 2.

First semester; M. W. F., 11:00; Professor VICKERS, 42 W.

3. **History of Economic Thought.** (2 Hrs.) Development of economic theories from antiquity to the present time. Causes, nature and effects of changes; relation to economic and political institutions. Prerequisites: Economics 1 and 2.

First semester; M. W. F., 9:00; Professor VICKERS, 42 W.

14. **Distribution of Wealth.** (2 Hrs.) Open to senior and graduate students. The actual apportionment of wealth among the several classes of society; effects of competition, monopoly, combinations of capital and labor, government regulation. Prerequisites: Economics 1, 2 and 3.

First semester; T. Th., 8:00; Professor VICKERS, 42 W.

4. **Relations of Government to Economic Enterprise.** (2 Hrs.) Open to senior and graduate students. Functions of government, both state and municipal, in relation to economic enterprises; principles and expediency of government regulation and of government ownership; methods and results for typical enterprises. Prerequisite: consent of instructor.

Second semester; T. Th., 9:00; Professor VICKERS, 42 W.

5. **Money, Credit and Banking.** (3 Hrs.) The nature and functions of money; nature and uses of credit; functions of banks and principles of banking as revealed in the banking system of leading countries. Special reference to the United States. Prerequisite: Economics 1 and 2.

First semester; M W. F.. 9:00; Professor VICKERS, 42 W.

6. **Public Finance.** (4 Hrs.) Principles governing expenditures of modern governments; sources of revenue; uses of public credit; principles and methods of taxation and of financial administration as revealed in fiscal systems of leading countries. Prerequisite: Economics 1 and 2.

Second semester; M. T. Th. F., 10:00; Professor VICKERS, 42 W.

7. **Transporation.** (3 Hrs.) Nature, history and problems of railway transportation, especially in the United States. Prerequisite: Economics 1 and 2. (Omitted 1920-21).

First semester; M. W. F., 8:00; Assistant Professor KING, 44 W.

8. **Transportation.** (3 Hrs.) Water transportation, inland and ocean, with special reference to the United States. Prerequisite: Economics 1 and 2.

Second semester; M. W. F., 8:00; Assistant Professor KING, 44 W.

10. **International Trade Policies.** (3 Hrs.) Nature, advantages and relative importance of trade between nations. Protective and revenue tariffs in theory, and in the practice of leading nations. Special reference to the United States. Prerequisite: Economics 1 and 2. (Omitted 1920-21).

First semester; T. Th. S., 11:00; Professor VICKERS, 42 W.

11. **Labor Problems.** (3 Hrs.) Origin and nature; methods of amelioration and reform; woman and child labor, sweating, immigration, unemployment, labor legislation, arbitration; cooperation, profit-sharing, and insurance. Prerequisite: Economics 1 and 2.

Second semester; M. W. F., 11:00; Professor VICKERS, 42 W.

17. **Business Organization.** (2 Hrs.) Forms of business organization and their development; individual enterprise, partnership, corporation, combination; resulting problems and requisite public policy. Prerequisite: Economics 1 and 2. (Omitted 1920-21).

First semester; T. Th., 10:00; Professor VICKERS, 42 W.

20. **Corporation Finance.** (2 Hrs.) Methods of financing business corporations; classes of securities; methods of promotion, underwriting, reorganization, resultant problems of business and of public policy. Prerequisite: Economics 1 and 2 .

First semester; T. Th., 10:00; _____

22. **Insurance.** (2 Hrs.) Insurance in its fundamental aspects; history; principles and their main applications; life, casualty, health, fire, marine and other hazards. (Omitted 1919-20).

Second semester; T. Th., 11:00; Asistant Professor KING, 44 W.

9. **History of Commerce.** (3 Hrs.) Nature and methods of trade among the ancients. Results of maritime discoveries, change of routes, international treaties, inventions, government regulation and trade promoting agencies.

First semester; M. W. F., 11:00; Assistant Professor KING, 44 W.

24. **Materials of Commerce.** (3 Hrs.) A study of agricultural, animal, mineral and manufactured products; their distribution and markets. (Omitted 1920-21.)

Second semester; M. W. F., 8:00; Assistant Professor KING, 44 W.

13. **Natural Resources of the United States.** (3 Hrs.) The exploitation and conservation of natural resources; soils, minerals, forests, marine products; relation to distribution and activities of the people and to national development.

Second semester; M. W. F., 8:00; Assistant Professor KING, 44 W.

25. **Elements of Accounting.** (3 Hrs.) An introduction to accounting; construction and interpretation of financial statements; analysis of financial transactions; distinctions between capital and income; value and depreciation; determination of profits; handling of reserves.

First semester; T. Th., 9:00; W., 2:00-5:00; Assistant Professor KING, 44 W.

26. **Advanced Accounting.** (3 Hrs.) Designed to follow Economics 25. A more intensive study of accounting theory, with its practical application; depreciation, reserve and surplus accounts; manufacturing accounts. Prerequisite: Economics 25.

Second semester; T. Th., 10:00; Assistant Professor KING, 44 W.

27. **Industrial Accounting.** (3 Hrs.) The principles of cost accounting as applied to the various types of industrial enterprises, including methods of burden application and the place of interest in costs.

First semester; T. Th., 10:00; W., 2:00-5:00; Assistant Professor KING, 40 W.

30. **Contemporary Economic Problems.** (1 Hr.) A critical study of some economic problems which are subjects of current discussion or recent legislation. (Omitted 1929-21).

First semester; Th., 4:30; Professor VICKERS, 42 W.

31. **Contemporary Economic Problems.** (1 Hr.) Continuation of Economics 30. (Omitted 1920-21).

Second semester; Th., 4:30; Professor VICKERS, 42 W.

Sociology.

1. **Elements of Sociology.** (3 Hrs.) Not open to freshmen. A general outline of sociological doctrines with special emphasis on the origin and development of social institutions.

First semester; M. W. F., 10:00; Associate Professor McKENZIE.

11. **Applied Sociology.** (3 Hrs.) Continuation of preceding course with emphasis on the application of the laws and principles of social organization and development to problems of social improvement. Prerequisite Sociology 1.

Second semester; M. W. F., 10:00; Associate Professor McKENZIE.

2. **Social Organization.** (3 Hrs.) Laws and principles underlying individual and social behavior; scope and methods of social control. Prerequisite: Sociology 1 and 11.

First semester; M. W. F., 8:00; Associate Professor McKENZIE.

3. **The Family.** (3 Hrs.) Sex in society; origin, functions, and evolution of the family as an institution; problems conected with divorce, desertion, and family rehabilitation. Prerequisite: Sociology 1.

Second semester; M. W. F., 9:00; Associate Professor McKENZIE.

4. **Theories of Social Progress.** (3 Hrs.) A critical and constructive study of the leading theories of social progress. Prerequisite: Sociology 1 and 11.

Second semester; M. W. F., 8:00; Associate Professor McKENZIE.

6. **Statistics.** (3 Hrs.) The principles of statistics as a method of recording and presenting social and economic facts, with application to concrete problems. Prerequisite: Economics 1, 2. (Omitted 1920-21).

First semester; T. Th., 11:00; two-hour laboratory period to be arranged; Associate Professor McKENZIE.

7. **Social Investigation.** (3 Hrs.) Research and field work along selected lines of investigation. Prerequisite: Sociology 1 and 11, or the consent of the instructor.

Second semester; one hour weekly, to be arranged, and not less than six hours of investigation; Associate Professor McKENZIE.

8. **Problems of Child Welfare.** (2 Hrs.) Heritage of the child, health, home conditions ,play, training, work; defective, dependent and delinquent children; institutions and movements for child saving.

Second semester; T. Th., 9:00; Associate Professor McKENZIE.

9. **Race Problems.** (2 Hrs.) History, causes and effects of immigration; methods of assimilation. The negro problem. Prerequisite: Sociology 1.

First semester; T. Th., 9:00; Associate Professor McKENZIE.

10. **Rural Sociology.** (3 Hrs.) A broad survey of the field of rural life in its social aspects; methods of improvement.

First semester; M. W. F., 11:00; Associate Professor McKENZIE.

12. **Crime and Punishment.** (2 Hrs.) Theories and history of crime and punishment; causes of crime; modern methods of correction and prevention. Prerequisite: Sociology 1.

First semester; T. Th., 10:00; Associate Professor McKENZIE.

13. **Scientific Philanthropy.** (2 Hrs.) Causes, amelioration and prevention of poverty; philanthropic institutions, their scope, management, control, inspection. Prerequisite: Sociology 1.

Second semester; T. Th., 10:00;; Associate Professor McKENZIE.

14. **Current Social Problems.** (1 Hr.) A critical study of current social problems and movements. Training in the use of periodical literature and reference works. (Omitted 1920-21).

First semester; T., 4:30; Associate Professor McKENZIE.

15. **Current Social Problems.** (1 Hr.) Continuation of Sociology 14. (Omitted 1920-21).

Second semester; T., 4:30; Associate Professor McKENZIE.

EDUCATION.

Professor DEAHL, Professor CAVINS, Associate Professor L. B. HILL, and Associate Professor LELAND.

The courses offered in this department aim to contribute to the educational influence and to the professional efficiency of the schools of the state in the following ways: (1) To interest those students who study the science of education as a part of their general education. (2) To afford students who wish to teach for a time after graduation the means of professional training commensurate with their academic training. (3) To furnish appropriate professional education to students, and to any experienced teachers of suitable age and attainments, who may desire to fit themselves to be teachers, principals, or superintendents of schools.

Students who take education as their major and who expect to do administrative and supervisory school work should take college courses representing a wide range of subjects taught in the public schools.

Those who are preparing to teach academic subjects should fit themselves to give instruction in as many as three subjects.

All students whose major is education should so plan their work that the afternoons in their senior year may be open for practice teaching, or for supervisory work, or for experimental work in education.

NOTE—Courses in Education are open only to juniors, seniors, and graduate students, except that Education 17 is open to freshmen and sophomores, and Education 12 is open to sophomores.

NOTE—for description of laboratory equipment in education and psychology, see Catalogue, page 23.

History of Education.

1. **History of Education.** (2 Hrs.) A brief study of early European education and of the middle ages; the forces in civilization that help and that hinder in the development of the school as an institution; the changing meaning of education due to the renaissance, the reformation, and the rise of science and of the scientific method of study; the development of logic, psychology, sociology, and the doctrine of evolution in their influence on education and on human freedom.

First semester; T. Th., 8:00; Associate Professor HILL, 17 W.

2. **History of Education.** (2 Hrs.) The purpose of the course is to enable the student to get a clear notion of how the American school has grown up and to apprehend what forces in society and what principles of education should direct American schools in the present and in the future.

Second semester; T. Th., 8:00; Associate Professor HILL.

8. **Foreign School Systems.** (2 Hrs.) A comparative study of the old and new school systems of Germany and France will be made; typical features of other continental systems will be examined; constructive suggestions will be offered from the standpoint of education for democracies.

Second semester; T. Th., 11:00; Associate Professor HILL, 17 W.

9. **School Systems, British and American.** (3 Hrs.) This course deals with the present day organization of educational systems in the United States, England, Scotland, and Canada. The development of each system will be studied as far as it may contain suggestions for constructive reorganization.

First semester; M. W. F., 8:00; Associate Professor HILL, 17 W.

NOTE—Courses 8 and 9 will not be given unless the number of students desiring them is considered sufficient by the instructor in charge.

Philosophy of Education.

4. **Philosophy of Education.** (3 Hrs.) This course is a study of the principles of education that should obtain in a democracy. The meaning of education in individual development and in social efficiency, a correct education theory and a consistent education doctrine, such as a changing and developing civilization requires, are emphasized. The nature of experience in its relation to thinking, method, subject-matter, and to the mind in its making is pointed out.

First semester; M. W. F., 11:00; Professor DEAHL, 17 W.

5. **Educational Sociology.** (3 Hrs.) In this course the school is studied as social, civic, and vocational institution. The principles of sociology as applied to the organization, supervision, program of studies, learning, and teaching in the school are examined and interpreted. The extension of the school—continuation, night, and part time schools, boys' and girls' clubs, school projects, vocational guidance, and similar topics—as a community need is pointed out.

Second semester; M. W. F., 11:00; Professor DEAHL, 17 W.

Administration and Supervision.

6. **School Administration and Supervision.** (2 Hrs.) Open to seniors and graduate students. A study of schools and school systems, organization and control of schools, school plant and equipment, preparation and function of principles and superintendents, selection and tenure of teachers, teaching corps and supervision of teachers, retardation and acceleration of pupils.

First semester; T. Th., 11:00; Professor DEAHL, 17 W.

7. **School Administration and Supervision.** (3 Hrs.) Open to seniors and graduate students. This course makes a study of scientific management as applied to school administration and supervision. School surveys, measurement of school products, tests of teaching, efficiency and supervisory control of learning and teaching.

Second semester; T. Th., 4:00; Professor CAVINS, 16 W.

11. **Supervision of Learning and Teaching.** (3 Hrs.) Open to seniors and graduate students who have had Education 10 or its equivalent. This course is offered to persons who are preparing to teach education in high schools, normal schools, or colleges and to those who are preparing to become supervisors, principals, or superintendents. An intensive study of learning and teaching is made from the point of view of the one who supervises and directs the learning and the teaching. Directed observation of teaching, lesson planning, teaching, and supervising teaching are exemplified with class work.

Second semester; M. W. F., 9:00; Professor DEAHL, 17 W.

15. **District Supervision.** (2 or 3 Hrs.) For district and county superintendents and those preparing for such positions. The function of the rural school; the programs of studies suited to country life; the preparation of teachers; the characteristics of economic learning and successful teaching; the duties and opportunities of district supervisors; and the relations of the rural school to other agencies of education.

Second semester; T. Th., 11:00; Professor DEAHL, 17 W.

13. **Seminar.** (3 Hrs.) The program of studies in the elementary school.

First semester; T. Th., hours to be arranged; Associate Professor HILL, 17 W.

Educational Psychology.

12. **Psychology of Learning and Teaching.** (3 Hrs.) The principles that control rational learning and successful teaching as far as such principles may be derived from psychological laws. The senses, sensation, perception, memory, imagination, reason, association of ideas, appreciation, interest, and attention, mental development, will. habit and character.

Second semester; M. F., 10:00, and a third hour to be arranged; Professor DEAHL, 17 W.

23. **Educational Psychology.** (3 Hrs.) The original nature of man, his reflexes, instincts, and capacities as the basis of educational growth and development; the significance of this basis in school work, in the selection of studies and in vocational and avocational pursuits; experimental determination of individual differences of school children.

First semester; M. W. F., 11:00; Associate Profesor HILL, 17 W.

Principles of Learning and Teaching.

10. **The Principles of Teaching.** (3 Hrs.) Required of all students who are candidates for recommendation for teachers' certificates. The fundamental principles of learning and teaching, method in its relation to subject matter, the selection and organization of subject matter, laboratory methods, and directed study will be studied and interpreted. The principles will be illustrated and exemplified by observation of teaching, lesson planning, and by teaching. Prerequisites: Education 4 and 23.

First semester; M. W. F., 9:00; Associate Professor HILL, 17 W.

Second semester; M. W. F., 10:00; Professor CAVINS, 16 W.

17. **Principles of Study.** (3 Hrs.) Primarily for freshmen and sophomores. The principles of economic and successful study. The function and relation of observing, thinking, reasoning, and memorizing in study will be emphasized.

First semester; M. W. F., 10:00; Professor DEAHL, 17 W.

22 23. **Directed Teaching.** (2 Hrs.) Required for recommendation for teachers' certificates. This course consists in selecting and in organizing subject matter, lesson planning and conference teaching under the supervision of the instructor. The teaching is followed by a conference of the student with the supervising instructor. In this course each student will examine and interpret the nature and the educative values of subject matter taught and the most economic and effective method of learning and of teaching the subject.

First semester; T. Th., 8:00; Professor CAVINS, 16 W.

Second semester; T. Th., 9:00; Associate Professor HILL, 17 W.

Secondary Education.

28. **Problems of Secondary Education.** (2 Hrs.) This course deals with the fundamental conception of the secondary school and its differentiation from other types of institutions. It includes a survey of the evolution of the present divisions of the school system and the divisions of the European systems and also of the progress in recent years of the junior high school. A critical examination of typical courses of study is made. Other problems dealing with organizations, equipment, and administration common to both the junior and senior high school are the subject of study and discussion.

Second semester; T. Th., 11:00; Professor CAVINS, 16 W.

25. **Normal School Problems.** (2 Hrs.) The function of the normal school and other teacher training agencies in the state; the relation of subject matter and its teachers to method and its teachers. A study of the appeal of the teaching profession, including the following topics: sources of recruits, reasonable certification requirements, compensation, tenure, pensions, social position, and growth in service.

Second semester; hours to be arranged; Associate Professor HILL, 16 W.

18. **The Teaching of English in the Secondary School** (2 Hrs.) Primarily for juniors and seniors. A study of the history of the development of the English course in the American high school, the principles of the selection and organization of subject matter, of methods of teaching, and standards for measuring methods of teaching and subject matter.

Second semester; T. Th., 9:00; Miss POLLOCK, 30 W.

14. **Seminar.** (3 Hrs.) Open to seniors and graduates. High schools and secondary education.

First semester; T. Th., 4:00; Professor DEAHL, 17 W.

Experimental Education, Tests, and Measurements.

26. **Statistical Methods Applied to Education.** (3 Hrs.) The purpose of this course is to acquaint the student with the most economical and scientific methods of handling educational materials. It is intended to enable pupils to read intelligently the educational literature dealing with experimental educational and educational and mental tests and measurments. Practical problems are provided in order to give training in tabulating, graphing, and interpreting educational data.

Second semester; M. W. F., 9:00; Professor CAVINS, 16 W.

27. **Experimental Education.** (3 Hrs.) The members of the class carry on a series of selected laboratory experiments to illustrate various types of learning, the learning process involved in some of the school subjects and some tests of attainment in these subjects. Each member of the class also makes a group report of the results on one of the experiments. The laboratory work is accompanied by a critical study of the literature of experimental education. Such topic as the kind of learning, transfer of effects of learning, etc., will be discussed.

First semester; M. W. F., 9:00; Provessor CAVINS, 16 W.

30. **Educational Tests and Measurements.** (3 Hrs.) This course provides for a study of the various standard scales, tests, and measurements that have been devised for measuring the results of teaching. It includes a study of the test movement, its possibilities and its limitations. It proviles actual training in giving tests, in scoring papers, in diagnosing educational conditions, and in suggesting remedies.

First semester; M. W. F., 10:00; Professor CAVINS, 16 W.

20. **Mental Tests and Measurements.** (The amount of credit will depend on the quality and quantity of work done, 2 to 6 hours.) Open to seniors and graduates. Mental traits and capacities of normal, retarded, and delinquent children; tests and measurements for learning and teaching; accurate standards for classifying and promoting pupils in school.

First or second semester; hours to be arranged; Professor DEAHL, 17 W.

Agricultural Education.

16. Agricultural Education. (3 Hrs.) Candidates for recommendation for a teacher's cretificate who are registered in the College of Agriculture must take this course in place of Course 10 in their senior year. (See announcements of College of Agriculture).

Second semester; T. Th., 11:00; Professor WINKLER, 27 M.

NOTE—For other courses in agricultural education, see announcements of the College of Agriculture.

ELECTRICAL ENGINEERING.

Credit will be given in the College of Arts and Sciences for courses 51 to 56 in electrical engineering offered in the College of Engineering. For detailed announcements of these courses see page 165.

ENGLISH.

Professor ARMSTRONG, Professor COX, Professor BARBE, Associate Professor SMITH,[1] Associate Professor JOHNSON, Assistant Professor H. C. GRUMBINE, Miss POLLOCK, Mr. WILLIAMS, Miss FROST, Miss LYTLE and Miss STEADMAN.

Composition and Rhetoric.

1. Composition and Rhetoric. (3 Hrs.) Primarily for freshmen. Required of all candidates for the bachelor's degrees in all the colleges. Two themes weekly, conferences, recitations on text-books, class criticism of written exercises, lectures.

First semester; sections M. W. F. at 8:00, 9:00, 10:00, 11:00 and 2:00; T. Th. S., at hours to be arranged; Professor BARBE, Associate Professor JOHNSON and staff.

Second semester; 8:00.

2. Composition and Rhetoric. (3 Hrs.) Primarily for freshmen. Required of all candidates for the bachelor's degrees in all the colleges. A continuation of Course 1 with more attention to rules and principles. Two themes weekly; study of prose masterpieces as models of style and as material for themes; conferences, recitations, class criticism of written exercises, lectures. Prerequisite: English 1.

Second semester; sections M. W. F. at 8:00, 9:00, 10:00, 11:00 and 4:00; T. Th. S., at hours to be arranged; Professor BARBE, Associate Professor JOHNSON and staff.

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[1] On leave of absence.

NOTE—Students will not be admitted to English 1 and 2 whose work shows marked deficiency in spelling, punctuation, grammar, sentence structure, or paragraphing.

Engineering and agricultural students will be assigned as far as possible to special sections.

8. Composition and Rhetoric. (3 Hrs.) For students who have not received credit for Course 1 in the first semester. Not open to students who have passed Course 1 with a grade of 80% or more. A practical study of composition with frequent written exercises and a study of prose models.

Second semester; M. W. F., 8:00; Miss LYTLE.

3. Composition and Rhetoric. (3 Hrs.) For students who have not received credit for Course 2 in the second semester. Not open to students who have passed Course 2 with a grade of 80% or more. Prerequisite: Courses 1 or 8. Study of various types of prose composition with frequent written exercises and study of prose models.

First semester; M. W. F., 8:00; Mr. WILLIAMS.

NOTE. Completion of Courses 8 and 3 instead of Courses 1 and 2 will satisfy the requirements for freshman composition.

6. Composition. (3 Hrs.) A study of the general principles of naration and description with frequent themes and exercises. Prerequisite: Courses 1, 2, 26, and 27.

First semester; M. W. F., 9:00; Miss STEADMAN.

12. Composition. (3 Hrs.) A continuation of Course 6, with special attention to the writing of the letter, the biographical sketch, and short-story. Either Course 6 or Course 12 may be taken separately. Prerequisite: Courses 1, 2, 26, 27.

Second semester; M .W. F., 9:00; Miss FROST.

4. Expository Writing. (2 Hrs.) A study of general principles and analysis of typical specimens with special reference to practical forms of expository composition. Prerequisite: Ccourses 1, 2, 26, 27.

First semester; T. Th., 10:00; Associate Professor JOHNSON.

7. Expository Writing. (2 Hrs.) A continuation of Course 4 with special reference to the informal essay and other literary types of expository composition. Either Course 4 or Course 7 may be taken separately. Prerequisite: English 1, 2, 26, 27.

Second semester; T. Th., 8:00; Associate Professor JOHNSON, 24 W.

NOTE—Either Course 4 or Course 7 is required of students whose major is English.

13. **Journalistic Composition.** (3 Hrs.) (Omitted in 1920-21.)

First semester; M. W. F., 11:00.

15. **Journalistic Composition.** (3 Hrs.) Continuation of Course 13. (Omitted in 1920-21.)

Second semester; M. W. F., 11:00.

14. **Technical English.** (1 Hr.) Primarily for seniors in the College of Engineering but open to seniors and graduate students in all the colleges. Consideration of some special problems of technical composition, preparation, criticism, and revision of student exercises, reports, theses, etc.; study of some good examples of technical literature.

Second semester; F., 10:00; Associate Professor JOHNSON, 24 W.

5. **Advanced Composition.** (2 Hrs.) For seniors and graduate students. A study of some special subject as, for example, style, criticism, rhetorical analysis, history of rhetoric; or practice in some form of composition. Lectures, written exercises and study of prose masterpieces. The work will be varied to suit the needs of the students who desire the course.

First semester; T. Th., 11:00.

9. **Advanced Composition.** (2 Hrs.) For seniors and graduate students. A continuation of Course 5 but either course may be taken separately.

Second semester; T. Th., 11:00..

16. **English Words.** (2 Hrs.) A study of English words and particularly of the student's individual vocabulary from the standpoint of correct usage and of propriety and effectiveness of diction. Prerequisite: Course 1.

Second semester; T. Th., 10:00; Associate Professor JOHNSON, 24 W.

17. **English Words.** (2 Hrs.) A study of the general vocabulary of modern English and of the origins, gradual differentiation in meaning, and present forms, uses, and grammatical functions of English words. The course is designed to afford the student greater facility in his own use of English. Prerequisite: Course 1 or 8.

First semester; T. Th., 8:00; Associate Professor JOHNSON, 24 W.

English Language and Literature.

The aims of this division of English are: (a) a scientific knowledge of the origin and development of the English language; (b) a general acquaintance with English literature; (c) a specific knowledge of certain great authors, periods, and movements in English literature. Freshman English is a prerequisite to other courses in literature.

20. Old English. (3 Hrs.) Not open to freshmen. Required of all students who make English their major. Bright's Anglo-Saxon Reader; the essentials of Anglo-Saxon grammar; translations. Prerequisites: English 1, 2, 26, 27.

First semester; M. W. F., 8:00; Professor Cox, 32 W.

21. Old English—Beowulf. (3 Hrs.) Translations, with due attention to text, meter and literary history. Prerequisite: English 20.

Second semester; M. W. F., 8:00; Professor Cox, 32 W.

22. Early Middle English. (2 Hrs.) Changes in the language. Reading of early middle English texts. Prerequisite: English 20.

First semester; T. Th., 8:00; Professor Cox, 32 W.

24. Chaucer. (3 Hrs.) The Canterbury Tales. Required of students who make English their major. Prerequisites: English 1, 2, 26, 27.

Second semester; M. W. F., 9:00; Professor Cox, 32 W.

25. Shakespeare. (3 Hrs.) A critical study of King Lear, Henry IV, Part I, and Henry V. Required of all students who make English their major. Prerequisites: English 1, 2, 26, 27.

First semester; M. W. F., 9:00; Professor Cox, 32 W.

26. General Survey of English Literature. (2 Hrs.) Primarily for freshmen. Required of candidates for degrees in the College of Arts and Sciences and in the College of Agriculture. Historical view of English literature from its beginnings to the eighteenth century, and a close, critical study of a few classics from each of the great periods of literary development.

First semester; sections T. Th., 8:00, 9:00, 10:00, 11:00 and 2:00; Professor ARMSTRONG and staff.

27. General Survey of English Literature. (2 Hrs.) Primarily for freshmen. Required of candidates for degrees in the College of Arts and Sciences and the College of Agriculture. A continuation of English 26. A survey of English literature in the eighteenth and nineteenth centuries. Prerequisite: English 26.

Second semester; sections, T. Th., 8:00, 9:00, 10:00, 11:00, and 2:00; Professor ARMSTRONG and staff.

NOTE—Students are expected to take Courses 26 and 27 in connection with English 1 and 2, in order to make up five hours of freshman English required in each semester.

28. Shakespeare. (3 Hrs.) Required of all students who make English their major. One play is studied closely and critically, and a number of others are read with attention to characters, plot development, and general literary interpretation. Prerequisites: English 1, 2, 26, 27.

Second semester; M. W. F., 9:00; Professor ARMSTRONG, 31 W.

Out **29. Milton.** (2 Hrs.) A study of Milton's poems and the Areopagitica.

Second semester; T. Th., 8:00; Professor Cox, 32 W.

32. English Literature. (3 Hrs.) From the death of Swift to the publication of the Lyrical Ballads (1745-1798). The authors studied are Gray, Collins, Johnson, Goldsmith, Cowper, Sheridan, Burke, Burns, and Blake, with some attention to lesser authors. Prerequisites: English 1, 2, 26, 27.

First semester; M. W. F., 8:00; Professor BARBE, 33 W.

33. English Literature. (3 Hrs.) From the publication of Lyrical Ballads to the death of Scott (1798-1832). The authors studied are Wordsworth, Byron, Shelley, Keats, and Scott. For advanced students only. Third hour to be arranged.

Second semester; T. Th., 8:00; Professor ARMSTRONG, 31 W.

44. Mid-Victorian Poetry. (2 Hrs.) A study of the poetry of Matthew Arnold, Dante Gabriel Rossetti, and William Morris, and of the relation of these writers to the spirit of their time. Prerequisites: English 1, 2, 26, 27.

First semester; T. Th., 9:00; Professor BARBE, 33 W.

36. The English Old Testament. (3 Hrs.) Required of all students who make English their major. A study of the Old Testament in English as literature; discussion of its literary forms and interpretation of some of its masterpieces. Prerequisites: English 1, 2, 26, 27. (Omitted in 1920-21).

First semester; M. W. F., 9:00; Professor ARMSTRONG, 31 W.

37. The English New Testament. (2 Hrs.) A study of the New Testament in English as literature. All the books are read and a few studied with attention to literary form and interpretation. Prerequisites: English 1, 2, 26, 27.

First semester; M. W. F., 9:00; Professor ARMSTRONG, 31 W.

38. The Short Story. (3 Hrs.) The short story as a form of literature. A study of its development and some of its types from Poe to the present time. Prerequisites: English 1, 2, 26, 27. (Omitted in 1920-21).

Second semester; T. Th., 10:00; Professor ARMSTRONG, 31 W.

39. American Literature. (3 Hrs.) A general survey of three centuries of prose and poetry in America as they express the life, spirit and ideals of the people. Prerequisites: English 1, 2, 26, 27.

First semester; M. W. F., 11:00; Professor ARMSTRONG, 31 W.

43. Types of American Fiction. (3 Hrs.) A study of a few examples of the main types of American fiction with attention to their literary qualities and the pictures and problems of life presented. Prerequisites: English 1, 2, 26, 27. (Omitted in 1920-21).

Second semester; M. W. F., 8:00; Professor ARMSTRONG, 31 W.

41. American History in American Literature. (3 Hrs.) A study in chronological order, of the greater poems and stories that record the great events of American history and the achievements of the American spirit. Prerequisites: English 1, 2, 26, 27.

Second semester; M. W. F., 8:00; Professor ARMSTRONG, 31 W.

49. Democrary in American Literature. (3 Hrs.) A study of the spirit and development of American democracy as interpreted by some of the great state papers, orations, stories, and poems of American literature. Primarily for junior and seniors.

Second semester; T. Th., 10:00; a third hour to be arranged. Professor ARMSTRONG, 31 W.

50. Current Periodical Literature. (1 Hr.) The object of the course is to encourage students to read some of the best poems, essays,, and short stories appearing in American periodicals of the first class. The work of the course will consist of lectures, assigned readings, reports, and discussions. Open to freshmen.

First semester; M., 10:00; Professor ARMSTRONG, 31 W.

Second semester (if there is sufficient demand), M., 10:00.

56. Modern American Poetry. (2 Hrs.) A study of current and recent poetry in America. Prerequisites: English 1, 2, 26, 27.

First semester; T. Th., 10:00; Professor ARMSTRONG, 31 W.

57. **Recent and Current English Poetry.** (2 Hrs.) A study of representative English poets of the last twenty-five years. Prerequisites: English 1, 2, 26, 27. ~~(Omitted in 1920-21)~~.

Second semester; T. Th., 9:00; Professor BARBE, 33 W.

54. **The Modern Drama.** (3 Hrs.) Reading and criticism of plays by recent and contemporary dramatists. Special attention will be given to the problem play. A few French plays in translation will be considered. (Omitted in 1920-21).

Second semester; M. W. and F., 11:00; Professor COX, 32 W.

42. **English Literature.** (3 Hrs.) Study of an author. The entire production or the most important work of some selected author is studied to gain a complete view. (Omitted in 1920-21).

Second semester; T. Th., 8:00; Professor ARMSTRONG, 31 W.

47. **Wordsworth.** (3 Hrs.) A study of the poetry of Wordsworth.

Second semester; M. W. F., 4:00; Professor BARBE, 33 W.

55. **Tennyson.** (3 Hrs.) (Omitted in 1920-21).

First semester; M. W. F., 11:00; Professor COX, 32 W.

51. **Browning.** (3 Hrs.) (Omitted in 1920-21).

Second semester; M. W. F., 4:00; Professor BARBE, 33 W.

58. **Rudyard Kipling.** (3 Hrs.) A study of the prose and poetry of Rudyard Kipling.

First semester; M. W. F., 11:00; Professor COX, 32 W.

40. **The Novel.** (3 Hrs.) Various types of the novel are studied in order to show its development and its relation to life. Prerequisites: English 1, 2, 26, 27.

Second semester; M. W. F., 11:00; Professor COX, 32 W.

46. **A Study of Poetry.** (2 Hrs.) A discussion of metrical and rhythmical forms and of theories of English verse; the essential qualities and historical development of English poetry. The course will include a study of typical poems of the several periods to illustrate forms, principles, and theories. Prerequisites: English 1, 2, 26, 27. (Omitted 1920-21).

Second semester; T. Th., 9:00; Professor BARBE, 33 W.

48. **The Ballad.** (2 Hrs.) A study of the traditional English and Scottish ballads with a special consideration of the types found in West Virginia. Elective for juniors, seniors, and graduate students. Prerequisites: English 1, 2, 26, 27.

Second semester; T. Th., 8:00; Professor COX, 32 W.

52. The Nature Element in Poetry. (3 Hrs.) Special attention is given to Wordsworth, Bryant, and Lowell. Prerequisites: English 1, 2, 26, 27. (Omitted in 1920-21).

Second semester; M. W. F., 11:00; Professor Cox, 32 W.

61. The Psychology of Composition and Literature. (2 Hrs.) An exposition of the theory of literary criticism based on a systematic consideration of the thought and feeling processes involved both in the creation of literature and in the appreciation of it. Prerequisites: English 1, 2, 26, 27.

First semester; T. Th., 10:00; Assistant Professor GRUMBINE, 47 W.

18. The Teaching of English in the Secondary School. (2 Hrs.) Primarily for juniors and seniors. A study of the history of the development of the English course in the American high school, the principles of the selection and organization of subject matter, of methods of teaching and standards for measuring methods of teaching and subject matter. Prerequisites: English 1, 2, 26, 27.

Second semester; T. Th., 9:00; Miss POLLOCK, 30 W.

62. Comparative Literature. (3 Hrs.) Reading from a few conspicuous novels from the seventeenth century to the present day. The novels chosen will include not only English and American authors but also standard English translations of a few French and German books. Prerequisites: English 1, 2, 26, 27.

Second semester; hours to be arranged; Mr. WILLIAMS.

ENTOMOLOGY.

Professor PEAIRS.

1. General Entomology. (4 Hrs.) A study of the external structures, classification, habits ,and local distribution of insects and their near relatives. Lectures and text-book. Laboratory and field work in the collecting and mounting of the more common local insects, the classification of the insects, and the study, aided by dissections and drawings, of the external anatomy of various types. Laboratory fee, $1.00.

Second semester; M. W. F., 11:00; Th., 2:00; A.

Credit will also be given in the College of Arts and Sciences for Courses 2, 3, 4, 5, 6 and 9 in entomology offered in the College of Agriculture.For detailed announcement of these courses see the announcements of that college.

FARM MANAGEMENT.

Associate Professor DADISMAN.

2. **Rural Economics.** (3 Hrs.) The study of economics as related to all phases of rural life.

Second semester; M. W. F., 8:00.

Credit will also be given in the College of Arts and Sciences for Course 1 in farm manegement offered in the College of Agriculture. For detailed announcement of this course see the announcements of that college.

FRENCH.

For announcement of courses in French see Romance Languages, page 122.

GEOLOGY AND MINERALOGY.

Professor BROWN and Assistant Professor SCHEFFEL.

NOTE—Excursions are taken by the classes over the outcrop of the Coal Measures and through the westernmost fold of the Appalachian Mountains, giving, within a radius of seven miles of the University, a complete geological section through the Mississippian and Pennsylvanian (Coal Measures) systems. Producing oil and gas wells are situated within ten miles of the University.

For a description of the geological museum and laboratory, see page 24.

1. **Physical Geography.** (3 Hrs.) This course treats of the surface of the earth, its form, and the forces in action, with their effect on the life upon it. Designed especially for those who wish to teach physical geography. Outdoor trips. Prerequisite: Some knowledge of physics or chemistry.

First semester; M. W. F., 8:00; Assistant Professor SCHEFFEL, 111 M. H.

2. **General Geology.** (3 Hrs.) Not open to freshmen. Surface features of the earth, stratigraphy, and structural geology. Numerous excursions will be taken. Text-book, Pirrson and Schuchert. Prerequisite: Some knowledge of chemistry.

Either semester; first semester, section one, M. W. F., 11:00; Professor BROWN, 111 M. H., section two, M. W. F., 10:00; Assistant Professor SCHEFFEL, 111 M. H.; second semester, M. W. F., 11:00; Professor BROWN, 111 M. H.

21. **General Geology Laboratory.** (1 Hr.) Designed to accompany or follow Geology 2. A study of the commoner rocks and rock forming minerals; drawing of structural forms; interpretation of topographic maps; use of hand instruments. Size of class limited. Laboratory fee, $1.00.

Either semester; Th., 10:00-12:00; Assistant Professor SCHEFFEL, 111 M. H.

3. **Historical Geology.** (3 Hrs.) Not open to freshmen. A continuation of Geology 2. The history of the earth and its inhabitants as revealed in the rocks. Recitations and excursions Text-book, Pirrson and Schuchert. Prerequisites: Geology 2, and Geology 6 or 10. Some knowledge of botany and zoology is desirable. Laboratory fee, $2.00.

Second semester; M. W. F., 10:00; Assistant Professor SCHEFFEL, 111 M. H.

31. **Historical Geology Laboratory.** (1 Hr.) Correlates with Geology 3. Study of the larger groups of fossils and of areal and structural geology. Value of maps and other illustrative material emphasized. Size of class limited. Laboratory fee, $1.00.

Second semester; W., 2:00-5:00; Assistant Professor SCHEFFEL, 111 M. H.

4. **Economic Geology.** (3 Hrs.) Designed for juniors and seniors. Treats of the of the occurrence and distribution of the non-metallic minerals, with attention to the geology of coal, oil and gas. Text-book, Ries' Economic Geology. Prerequisite: Geology 2 or 6..

Second semester; M. W. F., 11:00; Assistant Professor SCHEFFEL, 111 M. H.

5. **Economic Geology.** (3 Hrs.) Designed for juniors and seniors. An account of the occurrence of ore deposits and the distribution of metallic minerals. Text-book, Ries. Prerequisites: Geology 2, or Geology 6.

Second semester; M. W. F., 10:00; Professor BROWN, 113 M. H.

6. **General Mineralogy.** (5 Hrs.) Designed for sophomores. The principles of crystallography, physical and chemical properties, formation, uses and determination of the more important minerals. Text-book, Moses and Parsons' Mineralogy. Prerequisites: trigonometry and some knowledge of chemistry and physics.

First semester; 8:00; Professor BROWN, 113 M. H.

7. **Determinative Mineralogy.** (5 Hrs.) A continuation of Course 6. Work in determining minerals and making precise measurements with reflecting goniometer. Text-book, Moses and Parsons. Prerequisites: Geology 6, some knowledge of chemistry and physics.

Second semester; 8:00; Professor BROWN, 113 M. H.

8. **Geology of West Virginia.** (2 Hrs.) Designed for seniors and especially for teachers in high schools. This course is a physical history of the state and an account of its economic resources. Prerequisite: Geology 2.

First semester; T. Th., 11:00; Professor BROWN, 111 M. H.

10. **Petrology and Building Stones.** (2 Hrs.) A study of rocks with about 400 specimens of the various types from many countries. Adapted to the needs of engineers and architects.

Second semester; T. Th., 11:00; Professor BROWN, 111 M. H.

13. **Oil and Gas Geology.** (2 or 3 Hrs.) Designed for seniors. The origin, properties, distribution and mode of accumulation of oil and gas, solid and semi-solid bitumens; reservoirs of oil and gas; location of wells; survey of scientific and technical literature bearing on the geology and production of oil and gas, including current journals, government and state publications. Text-book, Johnson and Huntley. Prerequisites: Geology 3, trigonometry, chemistry and physics.

First semester; T. Th., and a third hour to be arranged; 8:00; Assistant Professor SCHEFFEL, 111 M. H.

17. **Field Geology.** (3 Hrs.) Designed for juniors and seniors. Each student will be assigned a near-by area and a complete study of its surface geology will be made in the field, with collection of specimens. From notes taken, the student will make a geological map with structure sections, and write a systematic description with interpretations. Text-book, Lahee. Prerequisites: Geology 3, surveying. Laboratory fee, $1.00.

Second semester; Th., 11:00; S., 8:00-12:00 Assistant Professor SCHEFFEL, 112 M. H.

Engineering Geology.

The following courses in geology designed particularly to meet the needs of students in mining engineering or in oil and gas engineering are offered in the College of Engineering.

89. **Elementary Mineralogy.** (2 Hrs.) Not counted for credit in the College of Arts and Sciences. Prerequisite: Chemistry 4 or equivalent.

First semester; T., 10:00; W., 2:00; Associate Professor CALLEN, 119 M. H.

92. **Oil and Gas Production.** (2 Hrs.) Leases and royalties; drilling and management of wells; valuation of oil and gas properties; reports on properties and prospects; size and scope of oil and gas companies; markets and supply; varieties and uses of refinery and other products of oil and gas. Addresses by oil and gas producers and other experts. Prerequisite: Geology 13.

Second semester; T. Th., 8:00; Assistant Professor SCHEFFEL, 112 M. H.

97. **Oil and Gas Laboratory.** (2 Hrs.) Calorimeter tests on oil and natural gas; the testing of lubricating oils; determination of viscosity and flashing points; the analysis of gases; tests on the absorption and compression methods of deriving gasoline from natural gas, etc. Prerequisites: Chemistry 16, Geology 13.

Second semester; F., 8:00 and 2:00; Associate Professor CALLEN, 119 M. H.

NOTE: For further information regarding engineering geology see the announceents of the College of Engineering.

GERMANIC LANGUAGES AND LITERATURES.

Professor TRUSCOTT.

Mr. --------

1. **Elementary German.** (5 Hrs.) Pronunciation, grammar, reading of simple prose. Thomas's Grammar; Super's Reader; Grimm's Maerchen.

First semester; M. T. W. Th. F., Mr. --------, 8 M.

2. **Elementary German.** (5 Hrs.) Continuation of Course 1. Reading, dictation, elementary composition. Immensee; Hoeher als die Kirche; Holzwarth's "Gruss aur Deutschland;" Truscott and Smith's "Elementary German Composition."

Second semester; 9:00; M. T. W. Th. F., Mr. --------, 8 M.

3. **German Prose and Composition.** (5 Hrs.) Reading of prose by modern authors; translation of English into German; grammar; dictation. Truscott and Smith's "Elementary German Composition."

First semester; M. T. W. Th. F., 8:00; Mr. --------, 8 M.

4. **German Poetry and Composition.** (5 Hrs.) One long poem and one drama; well known short poems. The work in composition will be a continuation of that in Course 3. "Hermann and Dorothea"; "Wilhelm Tell"; Hatfield's "German Lyrics and Ballads."

Second semester; M. T. W. Th. F., 8:00; Mr. --------, 8 M.

5. **Germany and the Germans.** (3 Hrs.) A course of general information about the country and the people. Aus vergangener Zeit; Lodemann's Germany and the Germans; Tower's Germany of Today; Boles's Deutsche Wirtschaft.

First semester; M. W. F., 8:00; Professor TRUSCOTT, 8 M.

6. **Advanced Composition.** (2 Hrs.) Translation; dictation, grammar. Bronson's Colloquial German; Osthaus's Prose Composition.

First semester; T. Th., 8:00; Professor TRUSCOTT, 8 M.

7. **Romantic Period.** (3 Hrs.) Reading selected from the prose and poetry of the first half of the nineteenth century. Prose by Arnim, Fouque, Chamisso, Eichendorff, and Immermann. Poetry by Heinie, Platen, Schenkendorf, Rueckert and Uhland. This course is intended to follow Course 5.

Second semester; M. W. F., 8:00; Professor TRUSCOTT, 8 M.

8. **Advanced Composition.** (2 Hrs.) A continuation of Course 6 Jagemann's German Composition.

Second semester; T. Th., 8:00; Professor TRUSCOTT, 8 M.

9. **Schiller.** (5 Hrs.) Study of his life. Gedichte; selections from "Geschichte des dreissigjaehrigen Krieges;" "Wallenstein."

First semester; M. T. W. Th. F., 9:00; Professor TRUSCOTT, 8 M.

10. **Goethe.** (5 Hrs.) Study of his life. Gedichte; Werther's Leiden; Torquato Tasso; Faust, Part I.

Second semester; M. T. W. Th. F., 9:00; Professor TRUSCOTT, 8 M.

11. **History of German Literature.** (3 Hrs.) Open to seniors and graduate students. The history of the literature to 1748; reading and discussion of works representative of the most important authors and periods. As a hand-book Klug's Geschichte der deutschen Nationalliteratur will be used. (Omitted in 1920-21).

First semester; M. W. F., 10:00; Professor TRUSCOTT, 8 M.

12. **History of German Literature.** (3 Hrs.) Open to seniors and graduate students. A continuation of Course 11. The history of the literature from 1748 to 1900. The classical works of Goethe and Schiller are not considered. (Omitted in 1920-21).

Second semester; M. W. F., 10:00; Professor TRUSCOTT, 8 M.

13. **Lessing.** (3 Hrs.) Open to seniors and graduate students. Study of his life. Minna von Barnheim; Emilia Galotti; Nathan der Weise. Laocoon. (Omitted in 1920-21).

First semester; hours to be arranged; Professor TRUSCOTT, 8 M.

15. **Modern German Drama.** (2 Hrs.) A reading course. Prerequisites: Courses 1, 2, 3, 4 and 5. (Omitted in 1920-21).
First semester; T. Th., 9:00; Professor TRUSCOTT, 8 M.

16. **Modern German Drama.** (2 Hrs.) A continuation of Course 15. (Omitted in 1920-21).
Second semester; T. Th., 9:00; Professor TRUSCOTT, 8 M.

17. **German Novel and Short Story.** (2 Hrs.) A reading course in nineteenth century prose. Prerequisites: Courses 1, 2, 3, 4 and 5.
First semester; T. Th., 11:00; Professor TRUSCOTT, 8 M.

18. **German Novel and Short Story.** (2 Hrs.) A continuation of Course 17.
Second semester; T. Th., 11:00; Professor TRUSCOTT, 8 M.

19. **Scientific German.** (3 Hrs.) Intended for students in the scientific courses. Prerequisites: Courses 1, 2, 3 and 4.
First semester; M. W. F., 11:00; Professor TRUSCOTT, 8 M.

22. **Scientific German.** (3 Hrs.) Continuation of Course 19.
Second semester; M. W. F., 11:00; Professor TRUSCOTT, 8 M.

24. **Heine.** (3 Hrs.) Readings from his prose and poetry. For students who have had the first two years of German. The grade of work is the same as in German 5. (Omitted in 1920-21).
First semester; M. W. F., 8:00; Professor TRUSCOTT, 8 M.

GREEK.

Professor BISHOP.

1. **Elementary Greek.** (5 Hrs.)
First semester; 11:00; 23 W.

2. **Elementary Greek.** (5 Hrs.) Continuation of Course 1.
Second semester; 11:00; 23 W.

3. **Xenophon's Anabasis.** (4 Hrs.)
First semester; M. T. Th. F., 10:00; 23 W.

4. **Selections from Lucian; Homer's Odyssey.** (4 Hrs.)
Second semester; hours to be arranged; 23 W.

7. **Plato's Apology, Krite, and Euthyphro.** (3 Hrs.) (Omitted 1920-21).
First semester; M. W. F., 9:00; 23 W.

8. **Demosthenes On the Crown.** (3 Hrs.) (Omitted 1920-21).
Second semester; M. W. F., 9:00; 23 W.

11. **Thucydides.** (3 Hrs.)
First semester; hours to be arranged; 23 W.

14. **Euripides' Ion.** (3 Hrs.) Open to seniors and graduate students.
Second semester; hours to be arranged; 23 W.

17. **The New Testament in Greek.** (3 Hrs.) Selected portions of the Gospels.
Second semester; hours to be arranged; 23 W.

18. **The New Testament in Greek.** (3 Hrs.) Selected portions of the Acts of the Epistles.
First semester; hours to be arranged; 23 W.

26. **Greek Archaeology.** (2 Hrs.)
First semester; T. Th., 3:00; 23 W.

20. **Mythology.** (2 Hrs.)
Second semester; T. Th., 3:00; 23 W.

15. **Greek Literature In Translation.** (2 Hrs.) Homer's Iliad or Odyssey.
First semester; T. Th., 9:00; 23 W.

21. **Greek Literature In Translation.** (2 Hrs.) Tragedies of Euripides or of Sophodes.
Second semester; T. Th., 9:00; 23 W.

19. **Comparative Philology.** (2 Hrs.) A general introduction to the subject of comparative philology. Prerequisite: Credit for at least ten hours' college work in each of two foreign languages.
First semester; M. W., 3:00; 23 W.

22. **Comparative Philology of the Aryan Family.** (2 Hrs.) A continuation of Course 19 which is prerequisite.
Second semester; M. W., 3:00; 23 W.

HISTORY AND POLITICAL SCIENCE.

Professor CALLAHAN, Professor CHITWOOD, Professor AMBLER (Extension); and Assistant Professor HIGBY.

The work offered in this department includes: (1) Continental European History; (2) English History; (3) American History; and (4) Political Science.

Instruction is given by lectures, text-book work, assigned collateral readings; preparation of papers, syllabi, and maps; special reports, recitations, and informal conferences.

Students are encouraged to observe and to read contemporary history and politics.

An afternoon hour is designated for conference and for direction of library work.

Continental European History.

Students who select continental European history as their principal study are advised to take at least one year in French or German, in the early part of the University course.

10. History of Ancient Civilization. (3 Hrs.) For freshmen. A brief survey of the civilization of the Orient and a more intensive study of the political and social life of the Greeks. (Omitted in 1920-1921).

First semester; M. W. F., 8:00; Assistant Professor HIGBY, 41 W.

11. History of Rome. (3 Hrs.) For freshmen. The aim of this course is to trace the development of Roman institutions, character, and civilization, to explain the genius of the Roman people for organization and government, and to call attention to the contributions of Rome to modern civilization.

First semester; M. W. F., 8:00; Professor CHITWOOD, 41 W.

12. Mediaeval History. (3 Hrs.) Primarily for freshmen. This course begins with the period of institutional chaos following the break up of the Roman empire, and ends with the rise of modern states. Political history except in the case of France, is subordinated to the study of social and economic institutions.

First semester; M. W. F., 8:00 and M. W. F., 9:00; Assistant Professor HIGBY, 43 W.

14. Modern European History. (3 Hrs.) Primarily for freshmen. The Reformation and the religious wars, the revolt of the Netherlands and the rise of the Dutch republic, the rise of Prussia, the period of French ascendency, the revolutionary and Napoleonic eras, the period of reaction, the unification of Germany, and Italy, and the progress of democracy in the nineteenth century.

Second semester; M. W. F., 8:00; and M. W. F., 9:00; Assistant Professor HIGBY, 43 W.

45. Current European History. (1 Hr.) For freshmen. A study of current history and politics in Europe and the East.

First semester; T., 10:00; Professor CHITWOOD, 41 W:

44. The French Revolution and the Napoleonic Era. (3 Hrs.) Primarily for juniors. A survey of the causes of the revolutionary movement, the main events of the French Revolution and the Napoleonic Period, and the political and social results of the revolutionary movement Prerequisite: History 14 or the consent of the instructor.

Second semester; M. W. F., 11:00; Assistant Professor HIGBY, 43 W.

13. The Renaissance and the Reformation, 1300-1648. (3 Hrs.) Open to seniors and graduate students. The development of the forces of modern civilization; survey of the economic, political, and intellectual conditions at the close of the middle ages; the Renaissance in Italy and Germany; the Protestant revolution in the principal European states; the counter-reformation; and the religious wars to the treaty of Westphalia.

First semester; M. W. F., 11:00; Professor CHITWOOD, 41 W.

46. Expansion of Europe, 1500-1914. (3 Hrs.) An advanced course tracing the expansion of European people into Asia, Africa and America, and the effect of this expansion. (Omitted 1920-21).

Second semester; T. Th., 11:00; Assistant Professor HIGBY, 43 W.

15. Continental Europe in the Nineteenth Century. (3 Hrs.) Open only to seniors and graduate students. An intensive study of political, economic, and social conditions in the more important states of Europe between 1815 and 1871.

First semester; M. W. F., 11:00; Assistant Professor HIGBY, 43 W.

50. Contemporary Europe, 1870-1919. (3 Hrs.) Open to seniors and graduate students. The political and social history of the leading European countries since 1870; events and conditions leading up to the Great War; reasons for entrance of the United States into the struggle; events of the war; the peace negotiations. Prerequisite: A knowledge of the outline facts of European history from 1815 to 1870.

Second semester; T. Th., 11:00 and a third hour to be arranged; Professor CHITWOOD, 41 W.

16. Seminar in European History. (2 Hrs.) For graduates; open to seniors with the consent of the instructor. (Omitted in 1920-21).

First semester; hour to be arranged; Professor CHITWOOD, 41 W.

English History.

Students will find it convenient to own Low and Pulling's Dictionary of English History and Gardiner's Atlas.

Courses 17 and 18 furnish a good foundation for the study of American history and law.

17. **History of England to the Tudors.** (3 Hrs.) Open to freshmen. A course in the general and institutional history of England. Special attention is given to political, economic and social life and development; the more important subjects in constitutional history are considered, showing how England learned to govern herself.

First semester; M. W. F., 10:00; Assistant Professor HIGBY, 46 W.

18. **History of England from the Tudors to the Present Time.** (3 Hrs.) A continuation of Course 17. The upbuilding of the British empire; constitutional and religious struggles of the sixteenth and seventeen centuries; economic and social changes; international reletions; struggle for colonial and commercial supremacy; and the formation of modern conditions and institutions.

Second semester; M. W. F., 10:00; Assistant Professor HIGBY, 46 W.

19. **English Social and Industrial History.** (3 Hrs.) A survey of the facts of social and industrial evolution and their relation to political history and the interpretation of present conditions; a study of the enlargement of English life and the growth of English institutions.

First semester; M. W. F., 11:00; Professor AMBLER, 46 W.

20. **English Historical and Practical Politics: English Constitutional Law and History.** (2 Hrs.) A seminar course arranged especially for advanced students in history who desire a suitable preparation for courses in American government and law. Prerequisite: a general outline knowledge of English history and Course 17 (or 19), and 18.

First semester; T. Th., 11:00; Assistant Professor HIGBY, 46 W.

American History.

All students of American history should have Canning and Hart's Guide, and Sheperd's Historical Atlas.

7. **History of The United States to 1840.** (2 Hrs.) A general survey course offered only at extension centers.

First semester; Professor AMBLER.

8. **History of The United States since 1840.** (2 Hrs.) A general survey course offered only at extension centers. Continuation of Course 7.

Second semester; Professor AMBLER.

21. **American Colonial History, 1492-1776.** (3 Hrs.) Primarily for freshmen. European back-ground; discovery and settlement; growth of the English colonies; the Anglo-French colonial conflict; adaption of European civilization to American conditions and development of new institutions; relation of the colonies to England; and the separation.

First semester; T. Th., 11:00, and a third hour to be arranged; Professor CHITWOOD, 41 W.

29. **American Social and Economic History.** (3 Hrs.) Primarily for freshmen. This course furnishes a proper basis for college courses in American history and economics. Not open to seniors or students who have had History 22 or 23.

First semester; M. W. F., 10:00; Professor CHITWOOD, 41 W.

Second semester; M. W. F., 10:00, and 11:00; Professor CHITWOOD.

32. **History of West Virginia.** (1 Hr.) For freshmen or sophomores. A general course in social, industrial, and political development. Considerable attention is paid to railroad development and the growth of towns.

First semester; Th., 10:00; Professor CALLAHAN, 20 L.

22. **The Formation of the Union: American Political History, 1776-1829.** (3 Hrs.) Primarily for sophomores or for freshmen preparing for law. Special attention is given to political and constitutional development and to international relations, but economic and social conditions are also treated.

First semester; M. W. F., 9:00; Professor CALLAHAN and Professor CHITWOOD, 20 L.

NOTE.—Courses 22 and 23 are fundamental and should be taken in regular order. Students who can take only one course should register for Course 22.

23. **Division and Reunion: American Political History Since 1829.** (3 Hrs.) A continuation of Course 22. Primarily for sophomores or for freshmen preparing for law. The growth of sectional differences, culminating in the secession movement; the Civil War; progress since the War; development of resources and readjustment; a brief survey of the political and social questions of the country.

Second semester; M. W. F., 9:00; Professor CHITWOOD, 43 W.

27. **Development of the West.** (3 Hrs.) For juniors, or other students who have had college courses in American history. The causes, problems and results of the westward advance. Early sectionalism; origin of new commonwealths; problems of transportation; geographic influences; evolution of frontier institutions and ideals; relation to national politics and influence on national development.

Second semester; M. W. F., 9:00; Professor CALLAHAN, 20 L.

51. **Southern History.** (3 Hrs.) For juniors and seniors who have had at least one year in history, either American or English. An economic, social, and political study of the ante-bellum South. The plantation system, with its dependence upon staple crops, slave labor, free trade, and local autonomy, is taken as the key of the study.

Semester and hours to be arranged; Professor AMBLER.

24. **Reconstruction and Later American History.** (3 Hrs. For seniors or for juniors who have credit for Courses 22 and 23. Conditions in the southern states in 1865 and the problems and conditions of reconstruction. Social, economic, and political conditions and changes in the United States from 1865 to the present time.

25. **American Expansion Policy.** (2 Hrs.) For graduate students.

Hours to be arranged; Professor CALLAHAN.

26. **History of American Diplomacy and Foreign Policy, 1776-1920.** (2 Hrs.) Open to seniors and graduate students who have credit for History 22 and 23. (Omitted, 1920-21.)

31. **Latin-American History.** (2 Hrs.) Primarily for seniors, but open to juniors whose major is history. The chief factors and phases of the development of the Latin-American countries from the era of settlement to the present time, with emphasis upon their recent diplomatic relations (especially inter-American). Effort will be made to understand the problems now before the Latin-American states. (A knowledge of Spanish will be useful in this course).

Second semester; T. Th., 9:00; Professor CALLAHAN, 20 L.

30. **Seminar.** (2 Hrs.) The American Revolution and the Making of the Constitution.

Semester and hours to be arranged; Professor CALLAHAN.

33. **Seminar.** (2 Hrs.) Historical bibliography and method.

Semester and hours to be arranged; Professor CALLAHAN.

34. **Seminar.** (2 Hrs.) Methods of historical research, construction, and interpretation. Theses in American history are prepared.

Semester and hours to be arranged; Professor CALLAHAN.

NOTE: Courses 30, 33 and 34 will not all be given in any one year.

Historical Conference.

First and second semesters; T., 3:00; Professor CALLAHAN, 22 L.

The attention of students taking American History is invited to the announcements of the Bryan prize and the Tax Commission prize on page 49.

Political Science.

In all these courses, students should have a clear knowledge of the outlines of general history and especially of modern political history.

35. **American Practical Politics: Government at Work.** (2 Hrs.) A practical study of the actual workings of the government and politics of the United States, both state and national. Special attention is given to the realities of government and institutions and to the personal interest and personal action which underlie constitutions and statutes. Open to students who have a familiar knowledge of the period covered by Courses 22 and 23.

First semester; T. Th., 9:00; Professor CALLAHAN, 20 L.

36. **European Historical and Practical Politics.** (2 Hrs.) A study of the development and present day working of the political institutions and parties of principal states of continental Europe. Open to advanced students who have had History 14 or its equivalent.

Second semester; T. Th., 11:00; Assistant Professor HIGBY, 43 W.

37. **State and Local Government.** (1 Hr.) A study of governmental institutions and problems and political methods, with special reference to the state and community activities of West Virginia.

42. **Anglo-American Historical Jurisprudence.** (2 Hrs.) Open to seniors and graduate students. A study of the sources and growth of law and the development of legal institutions in connection with social and political history. Adapted especially to advanced students of history who are preparing for the study of law. (Omitted in 1920-21).

First semester; T. Th., 9:00; Professor CALLAHAN, 20 L.

43. **International Law and Practice of Diplomacy.** (2 Hrs.) Open to seniors and graduate students with a knowledge of modern history, especially Courses 22 and 23.

Second semester; T. Th., 9:00; Professor CALLAHAN, 20 L.

HOME ECONOMICS.

Courses in this subject are offered both in the College of Arts and Sciences and in the College of Agriculture. For a detailed description of these courses see the announcements of the College of Agriculture.

ITALIAN.

For courses in this subject see under Romance Languages, page 125.

HORTICULTURE.

Credit will be given in the College of Arts and Sciences for Courses 2, 3 and 13 in horticulture offered in the College of Agriculture. For detailed announcements of these courses see the announcments of the College of Agriculture.

LATIN.

Professor CANNADAY and Professor HARE.

Courses 1, 2, 3 and 4 may be offered for entrance or taken as college work. Students offering two units for entrance will begin with 1, those offering three units will begin with 3, and those offering four units with 5. Additional courses are required of those making Latin their major, depending on the amount offered for entrance. Students making Latin their major will also take History 10 and 11. See page 102.

21. **Elementary Latin.** (5 Hrs.) Intended primarily for students who are preparing for law or medicine. An intensive course covering in one semester what is usually called First Year Latin. Much written work is required in addition to class-room instruction.

First semester; 8:00; Professor CANNADAY, 29 W.

22. **Elementary Latin.** (5 Hrs.) Continuation of 21. Text read will be Caesar or an equivalent. The course also calls for written work based upon the text read.

Second semester; 8:00; Professor CANNADAY, 29 W.

1. **Cicero.** (4 Hrs. or if offered to remove entrance conditions, one-half unit.) Primarily for freshmen offering two units for entrance. The first three orations against Catiline are read. Prerequisite: two units of high school Latin.

First semester; 8:00; Professor HARE, 12 W.

2. **Cicero.** (Credit same as in Course 1.) Continuation of Course 1. The orations read are the fourth oration against Catiline, the oration for Archias, and the Manilian law. Prerequisite: Latin 1.

Second semester; 8:00; Professor HARE, 12 W.

3. **Virgil.** (Credit same as in Course 1.) Primarily for freshmen offering three units for entrance. The first three books of the Aeneid are read. Composition once a week. Prerequisite: Latin 2.

First semester; M. T. Th. F., 9:00; Professor HARE, 12 W.

4. **Virgil.** (Credit same as in Course 1.) Continuation of Course 3. Books four, five, and six are read. Prerequisite: Latin 3.
Second semester; M. T. Th. F., 9:00; Professor HARE, 12 W.

5. **Cicero—De Senectute and De Amicitia; Livy XXI.** (5 Hrs.) Open to students who have had the preceding or four units of high school Latin.
First semester; 9:00; Professor CANNADAY, 18 W.

6. **Livy XXII and Horace—Odes and Epodes.** (5 Hrs.) Continuation of Course 5. Particular attention to the meters of Horace, his style and his philosophy of life.
Second semester; 9:00; Professor CANNADAY, 18 W.

12. **Ovid—Metamorphoses.** (3 Hrs.) A course in rapid reading, with a discussion of the meaning and sources of the myths read.
First semester; M. W. F., 11:00; Professor CANNADAY, 18 W.

8. **Comedy.** (3 Hrs.) Five or six plays of Plautus and Terence. Study of characters, development of plot, etc.
Second semester; M. W. F., 11:00; Professor CANNADAY, 18 W.

9. **Teachers' Course in Latin.** (2 Hrs.) A discussion of Latin in its relation to modern languages, questions of style, methods of translation and other matters than concern the prospective teacher of Latin.
First semester; T. Th., 11:00; Professor CANNADAY, 18 W.

10. **Teachers' Course in Latin.** (2 Hrs.) Continuation of 9.
Second semester; T. Th., 11:00; Professor CANNADAY, 18 W.

11. **Horace—Satires and Epistles.** (4 Hrs.) Selected satires and epistles are read, with attention to Horace's personal life.
First semester; M. T. Th. F., 10:00; Professor CANNADAY, 18 W.

17. **Roman Life and Customs.** (4 Hrs.) A study of the Romans in their homes, their intercourse in business and professional life.
Second semester; hours to be arranged; Professor CANNADAY, 18 W.

18. **Outlines of Latin Literature.** (3 Hrs.) The representative writers of the different periods will be discussed in some detail and a considerable amount of parallel reading will be required.
First semester; hours to be arranged; Professor CANNADAY, 18 W.

LAW.

Candidates for the regular A.B. degree may elect not more than fifteen hours of law. Candidates in the combined A.B. and LL.B. course may count the entire first-year work in law for credit toward the A.B. degree.

LIBRARY SCIENCE.

Mr. ARNETT.

1. **Library Methods.** (2 Hrs.) An introductory course for the purpose of acquainting students with the University Library and the practice of library methods; instruction in the use of catalogues, indexes, and general reference books, and in the selection and purchase of books.

First semester; T. Th., 8:00; L.

42. **Library Methods.** (2 Hrs.) Theory and practice of library methods, including elementary cataloguing, classification, binding and repair of books, loan desk, etc.

Second semester; T. Th., 8:00; L.

MACHINE DESIGN AND CONSTRUCTION.

Credit not to exceed fifteen hours in all will be given in the College of Arts and Sciences for Courses 20, 21, 22, 23, 24, 25, 28 and 30 in mechanical drawing, Course 26 in descriptive geometry, Courses 27 and 9 in mechanism and machinery and Courses 46 and 47 in industrial management offered in the College of Engineering. For detailed anouncements of these courses see the announcements of that college.

MATHEMATICS.

Professor EIESLAND, Professor HODGSON, and Assistant Professor ALLEN.

Courses 9, 10, 11 and 12 are required of those who choose mathematics as a major subject. Courses 9, 10, and 11 are recommended for those whose major is physics.

2. **Solid Geometry.** (3 Hrs.) (If offered to remove entrance condition one half unit).

First semester; 8:00; Assistant Professor ALLEN, 4 W.

Second semester; 8:00; Assistant Professor ALLEN, 4 W.

34. **Advanced Algebra and Trigonometry.** (5 Hrs.) Intended primarily for engineering students. A short review of topics in elementary algebra; radicals and imaginaries. Theory of quadratic equations with applications. Graphic algebra, logarithms, arithmetic and geometric series, the binomial theorem, theory of equations and Horner's method of solving numerical equations. Definitions and fundamental properties of the trigonometric functions and solution of the right triangle.

First and second semesters; Sections at 9:00; 9:00, and 11:00; Professors EIESLAND and HODGSON and Assistant Professor ALLEN, 8, 9 and 4 W.

35. **Trigonometry and Analytic Geometry.** (5 Hrs.) Intended primarily for Engineering students. A continuation of Course 34. Solution of the general plane and spherical triangles with application to the astronomical triangle; trigonometric equations; DeMoivre's theorum; certain topics in advanced algebra with introduction to infinitesimal calculus; derivatives of algebraic functions; straight line and conic sections.

Second semester; Sections at 8:00, 9:00, and 11:00; Professors EIESLAND and HODGSON, and Assistant Professor ALLEN, 8, 9 and 4 W.

NOTE: Courses 34 and 35 are intended primarily for engineering students; but students of the College of Arts and Science who wish to do a complete year's work in mathematics are advised to take these courses.

3. **Advanced Algebra.** (3 Hrs.) A three hours' course which covers the same topics as Course 34. Primarily for students in the College of Arts and Sciences.

Both semesters; M. F. W., 10:00; Assistant Professor ALLEN, 4 W.

4. **Plane Trigonometry.** (2 Hrs.) Primarily for students in the College of Arts and Sciences.

Both semesters; T. Th., 10:00; Assistant Professor ALLEN, 4 W.

7. **Differential and Integrad Calculus.** (3 Hrs.) Prerequisite: Courses 3, 4, 5 and 6.

First semester; M. W. F., conference hours, T. Th., 8:00; Professor EIESLAND, 8 W.

8. **Differential and Integral Calculus.** (3 Hrs.) This course is a continuation of Course 7.

First semester ; M. W. F., conference hours, T. Th., 8:00; Professor EIESLAND, 8 W.

NOTE.—In courses 7 and 8, the part of each denoted as "Conference," two hours weekly, is not intended to increase the amount of prepared work. It really amounts to two hours weekly of study in preparation for the regular class recitation with the help and guidance of the teacher. Attendance at these conferences is required just as in the case of regular recitations.

9. **Differential Equations.** (3 Hrs.) Prerequisite: Courses 7 and 8 or 7 and 14. This course is especially recommended to those who expect to take up advanced work, such as physical chemistry, mathematical physics and theory of electricity.

Second semester; M. W. F., 10:00; Professor EIESLAND, 8 W.

10. **Theory of Determinants and Analytic Geometry of Space.** (2 Hrs.) Open to seniors and graduate students. Prerequisite: Courses 5, 7 and 8.

First semester; M. W., 3:00; Professor HODGSON, 8 W.

11. **Advanced Topics in Calculus.** (2 Hrs.)

Second semester; T. Th., 3:00; Professor EIESLAND, 8 W.

12. **Projective Geometry.** (3 Hrs.) Open to seniors and graduate students.

Second semester; M. W. F., 4:00; Professor HODGSON, 9 W.

13. **Analytic Geometry and Calculus.** (5 Hrs.)

First semester; 11:00; Professor HODGSON, and Assistant Professor ALLEN, 9 and 4 W.

14. **Differential and Integral Calculus.** (5 Hrs.) Continuation of Course 13.

Second semester; 11:80; Professor HODGSON, 9 and 4 W.

NOTE.—Courses 13 and 14, which are intended for science as well as for engineering students, are equivalent to Courses 5, 7 and 8.

Undergraduate Courses in Applied Mathematics.

22. **Mathematics for Agriculture and General Science.** (3 Hrs.) Primarily for students of agriculture and biological sciences. The course includes such topics as the following: review of elementary algebra, graphic methods, logarithms, trigonometry and land surveying, calculation of errors, annuities, laws of heredity, probability. Prerequisite: One year's work in elementary algebra.

First semester; hours to be arranged; Professor HODGSON, 9 W.

23. **The Mathematical Theory of Investment.** (2 Hrs.) Primarily for students of economics and sociology. The following are among the topics treated: theory of series and logarithms, interest and annuities, amortization, valuation of bonds, sinking funds and depreciation ,theory of probability, annuities, life insurance. Prerequisites: a fair knowledge of algebra through quadratics.

Semester and hours to be arranged; Professor EIESLAND, 8 W.

Astronomy.

1. **Descriptive Astronomy.** (3 Hrs.) Opportunity is given to those who wish to do sextant work or work with a portable transit.

Second semester; hours to be arranged; Professor EIESLAND, 11 M.

Courses for Graduate Students.

15. **Introduction to Lie's Theory of Continuous Groups with Application to Differential Equations.** Prerequisite: Courses 9, 10 and 12. Three hours a week throughout the year. Credit and hours to be arranged. Professor EIESLAND, 8 W.

16. **Higher Plane Curves with Special Reference to Curves of the Third and the Fourth Order.** Two hours a week throughout the year. Open only to graduate students. Credit and hours to be arranged. Professor HODGSON, 9 W.

17. **Introduction to the Theory of Functions of a Complex Variable.** Open only to graduate students. Credit and hours to be arranged. Professor EIESLAND, 8 W.

18. **Higher Algebra and Introduction to the Theory of Invariants.** Open only to graduate students. Credit and hours to be arranged. Professor HODGSON, 9 W.

19. **Differential Geometry and Theory of Surfaces.** Three hours a week throughout the year. Professor EIESLAND, 8 W.

20. **Theory of Numbers.** An elementary course. Open only to graduate students. Two hours a week throughout the year. Professor HODGSON, 9 W.

21. **Differential Equations.** An advanced course with applications; the algebra of vectors. Prerequisite: Courses 7, 8 and 9. Professor EIESLAND.

24. **Theory of Equations with Introduction to the Galois Theory.** Hours and credit to be arranged; Assistant Professor ALLEN.

25. **Enumerative Geometry.**
Hours and credit to be arranged; Assistant Professor ALLEN.

MECHANICAL DRAWING AND MACHINE DESIGN.

Credit will be given in the College of Arts and Sciences for courses in mechanical drawing offered in the College of Engineering. For detailed announcement of these courses see the announcements of that college.

MECHANICS AND APPLIED MATHEMATICS.

Credit will be given in the Colege of Arts and Sciences for Courses 70, 71, 72 and 73 in mechanics offered in the College of Engineering. For detailed announcements of these courses see the announcements of that college.

MINING ENGINEERING.

Credit will be given in the College of Arts and Sciences for Courses 85 and 96 in metallurgy offered in the College of Engineering. For detailed announcements of these courses see the announcements of that college.

MUSIC.

Credit not to exceed fifteen hours in all will be given in the College of Arts and Sciences for Courses 1, 2, 3 and 4 in the theory of music and Courses 5 and 6 in the history of music offered in the School of Music. For detailed announcements of these courses see the announcements of the School of Music.

PHILOSOPHY.

Professor CANTRALL.

15. **Philosophical Introduction.** (3 Hrs.) An attempt in the most elementary way to introduce beginners to the point of view, the scope and the significance of philosophy. Prerequisite for all other courses in the department. Open to freshmen.

First semester; M. W. F., 9:00; 33 L.

Second semester; T. Th., 10:00; third hour to be arranged; 33 L.

5. **Elementary Ethics.** (2 Hrs.) Introductory to the more advanced course in ethics but intended also for those who may not wish to pursue a further course; a study of the principles and problems of the moral life. (Omitted, 1920-21).

10. **Elementary Course in the Study of Religion.** (2 Hrs.) Prerequisite to Courses 71 and 72, but open also to those who do not wish further courses in the subject. The significance of religious teaching. Study of the beliefs and practices and the forms of worship of some of the great religions. (Omitted in 1920-21).

Psychology.

1. **Introduction to Psychology.** (3 Hrs.) A study of the facts of mind with the minimum of the physiological aspect.

First semester; M. W. F., 11:00; 33 L.

14. **Introduction to Psychology.** (3 Hrs.) Required for pre-medical students; open to all others interested in the physiological aspect of psychology.

Second semester; M. W. F., 9:00; 33 L.

16. **Social Psychology.** (3 Hrs.) The characteristic instinctive, emotional and volitional tendencies and reaction of man in the process of his moralization in society. This course should be of interest to students planning work in the social and political sciences. Prerequisite: Course 11 or 12.

Second semester; M. W. F.. 11:00; 33 L.

Logic.

2. **Logic.** (2 Hrs.) Logic is interested in the nature of proof and the laws of evidence. Practice in logical analysis, the use of the syllogisn and inductive methods, and in the detection of fallacies of thought. Prerequisite: Course 11 or 12.

First semester; T. Th., 9:00; 33 L.

22. **Logic.** (2 Hrs.) Continuation of Course 21 with a consideration of modern logic and science.

Second semester; T. Th., 9:00; 33 L.

23. **Introduction to Philosophy.** (2 Hrs.) A study of the problems of philosophy in the light of the traditional systems, with special attention to the philosophy of realis. Open also to graduate students of whom additional readings and assigned papers are required. Prerequisites: Courses 21 and 22. Hours to be arranged. (Omitted in 1920-21).

First semester; hours to be arranged; 33 L.

Ethics.

31. **Ethics.** (3 Hrs.) A consideration of ethical theories and values. together with special attention to the moral imperative and the relation of morality and religion. Open also to graduates who are required to do additional independent work. Recommended as prerequisites: Courses 11 or 12. 61 and 62. Alternates with Course 71. (Omitted 1921-22).

First semester; T. Th., 11:00; third hour to be arranged; 33 L.

32. **Advanced Ethics.** (3 Hrs.) Organized according to the needs of the class. Open to graduate students. Prerequisite: Course 31. Alternates with Course 72. (Omitted 1921-22).

Second semester; T. Th., 11:00; third hour to be arranged; 33 L.

Philosophy.

41. **Introduction to Philosophy.** (3 Hrs.) A survey of the issues arising from the inquiry as to ultimate reality involving life and world relations, being an introduction to systematic philosophy. Open to graduate students who do additional required readings and assigned papers. Prerequisite: two courses other than elementary.
First semester; hours to be arranged; 33 L.

7. **History of Philosophy.** (3 Hrs.) A survey of the principal philosophical systems with their social. moral and religious implications. Prerequisite: Course 1 and one course other than elementary.
First semester; M. W. F., 10:00; 33 L.

8. **History of Philosophy.** ,(3 Hrs.) Continuation of Course 61. Special attention to some period or subject.
First semester; M. W. F., 10:00; 33 L.

63. **History of Philosophy.** (3 Hrs.) Further study of some period or subject. Prerequisite: Courses 61 and 62. (Omited in 1920-21).

11. **Philosophy of Religion.** (3 Hrs.) The basis of religious beliefs in a rationally interpreted universe. Prerequisites: Courses 1 and 2 and two courses other than elementary, preferably 61 and 62. Alternates with Course 31. (Omitted 1920-21).
First semester; T. Th., 11:00; 33 L.

72. **Philosophy of Religion.** (3 Hrs.) Continuation of Course 71. Alternates with Course 32. (Omitted 1920-21).
Second semester; T. Th., 11:00; 33 L.

81. **Modern Philosophy.** (3 Hrs.) A rapid review of the history of philosophy, followed by a study of the present philosophical tendencies and the texts of representative writers. Primarily for graduates, but seniors of adequate preparation may be admitted. (Omitted in 1920-21).
First semester; M. W. F., 2:00; 33 L.

82. **Modern Philosophy.** (3 Hrs.) Continuation of Course 81. (Omitted in 1920-21).
Second semester; M. W. F., 2:00; 33 L.

PHYSICS.

Professor WAGGONER, Assistant Professor STUHLMAN and Mr. JOLLIFFE.

NOTE.—For description of the physical laboratories see page 22.

The various courses offered in physics are designed to meet the needs of the students in the Colleges of Arts and Sciences, Agriculture, and Engineering. and in the School of Medicine. For students who expect to teach physics the laboratory offers facilities for individual laboratory work and the construction of apparatus. There is a laboratory fee of $2.00 for each course in which laboratory work is given.

1. **Introductory Physics.** (3 Hrs.) Primarily for freshmen. Required of students in the College of Agriculture. The course is based on Kimball's College Physics and presents the fundamental principles of physics and their application to every day life. See Course 2 below. Prerequisite: plane geometry.

First semester; lectures; M. W., 8:00; Professor WAGGONER, 14 M.; Quiz sections, Th.. 8:00, F. 8:00, or F., 9:00.

2. **Introductory Physical Laboratory.** (1 Hr.) This course accompanies, and is required of all students who take Courses 1 and 6. The course consists of individual, quantative determinations of the various physical constants, and occupies one leboratory period per week

First semester; various sections as announced in the semester schedule; Assistant Professor STUHLMAN and staff

3. **Introductory Physics.** (3 Hrs.) A continuation of Course 1 which is a prerequisite. See Course 4 below.

Second semester; lectures; section one, M. W., 8:00; Professor WAGGONER, M.; Quiz sections; Th., 8:00, F., 8:00, or F., 9:00.

4. **Introductory Physical Laboratory.** (1 Hr.) A continuation of Course 2, which is prerequisite.

Second semester; various sections as announced in semester schedule; Assistant Professor STUHLMAN and staff.

6. **General Physics.** (4 Hrs.) Required of all candidates for engineering degrees, and recommended for all students in Arts and Sciences who elect physics from the science group. Not open to students who have credit for Course 1. The derivation of the mathematical statements of the laws of physics and their application to the solution of engineering problems. Prerequisites: Mathematics 3 and 4. No student is permitted to take this course without its accompanying laboratory exercise, which is Course 2.

First semester; T. W. Th. F., 9:00; Professor WAGGONER and Assistant Professor STUHLMAN, 14 M.

8. General Physics. (4 Hrs.) A continuation of Course 6 which is a prerequisite. Not open to students who have credit for Courses 1 and 3. No student is permitted to take this course without its accompanying laboratory exercise which is Course 4.

Second semester; T. W. Th. F., 9:00; Professor WAGGONER and Assistant Professor STUHLMAN, 14 M.

55. Problems in Physics. (2 Hrs.) This course is a discussion of problems for students in engineering.

First semester; Th. F., 9:00; Assistant Professor STUHLMAN, 6 M.

56. Problems in Physics. (2 Hrs.) A continuation of Course 55.

Second semester; Th. F., 9:00; Assistant Professor STUHLMAN, 6 M.

10. Electrical Measurements. (4 Hrs.) This course is designed for, and required of the candidates for the degree of B.S.M.E.. and B.S.Chem.E. It consists of the study of photometry, magnetic properties of materials, the theory, calibration, and use of various electrical instruments. Prerequisites: Physics 6, 2, 8 and 4, and integral calculus.

First semester; T. Th., 10:00; laboratory, W., 2:00-4:00; Professor WAGGONER, 14 M.

11. Radio-Telegraphy. (4 Hrs.) This course consists of the study of the modern methods used in radio-transmission of intelligence. The department has a small installation for wireless telegraphy which is used as a basis for the laboratory study of various systems of transmission. Students are expected to spend one evening (8:00-11:00 p. m.) each week in the laboratory in addition to the regular required laboratory work.

Second semester; T. Th., 10:00; laboratory, W., 3:00-5:00; Professor WAGGONER, 14 M.

12. Photography. (2 Hrs.) Open to all students of the University. One lecture and one laboratory exercise per wek. The simple theory of photography; making lantern slides, micro-photographs and portraits. Students will be expected to purchase the necessary supplies.

Second semester; lectures, Th., 4:00; laboratory, hours to be arranged; Assistant Professor STUHLMAN, 16 M.

16. Theoretical Mechanics. (5 Hrs.) Lectures anl laboratory work. Open to juniors, seniors and graduate students. Prerequisites: Physics 6, 8, 2. 4, and integral calculus.

First semester; hours to be arranged; Assistant Professor STUHLMAN, 4 M.

18. Heat and Wave Motion. (5 Hrs.) Lectures and laboratory work. Open to juniors, seniors and graduate students. Prerequisites: Physics 6, 8, 2. 4, and integral calculus.

Second semester; hours to be arranged; Professor WAGGONER, 14 M.

22. Light. (5 Hrs.) Lectures and laboratory work. Open to juniors, seniors and graduate students. Prerequisites: Physics 6, 8, 2, 4, and integral calculus. ~~(Omitted 1920-21).~~

~~First semester~~; hours to be arranged; Assistant Professor STUHLMAN, 4 M.

25. Electricity and Magnetism. (5 Hrs.) Lectures and laboratory work. Open to seniors and graduate students. Prerequisites: Physics 10 and diferential equations. (Omitted in 1920-21).

Second semester; hours to be arranged; Professor WAGGONER, 14 M.

NOTE: Students who make physics their major subject are required to complete three of the cycle of courses 16, 18, 22, and 24.

Courses on conduction of electricity through gases, on the electron theory and on advanced optics will be given if there is sufficient demand for such courses.

PHYSIOLOGY AND HYGIENE.

Professor SIMPSON and Professor ARKIN.

1. Physiology. (5 Hrs.) For students in the College of Arts and Sciences who do not care to go into the details of medical physiology. Not open to freshmen. Prerequisite: Chemistry 1 and 2. Laboratory fee, $2.00.

Second semester; M. T. Th. F., 10:00; Laboratory, W., 2:00-5:00; Professor SIMPSON, M. B.

9. Hygiene and Sanitation. (2 Hrs.) Required of juniors in the home economics course. Not open to freshmen. This course considers the principles of hygiene and sanitation as they pertain to the welfare of the individual, and the care of the public health.

First semester; T. Th., 8:00; Professor ARKIN, M. B.

10. Hygiene and Sanitation Laboratory. (2 Hrs.) Open to a limited number of students who have taken or are taking Course 9. Experiments in bacteriology as it relates to hygiene and disease prevention. Laboratory fee, $3.00.

First semester; W. F., 2:00-4:00; Professor ARKIN, M. B.

3. Sanitation. (2 Hrs.) Sources and quality of water supplies; construction of water supply and sewerage systems; plumbing, heating and ventilation of residences and school buildings. Control of water borne infectious diseases. (Omitted in 1919-20).

Second semester; T. Th., 11:00.

DEPARTMENT OF PUBLIC SPEAKING.

Professor KAY.

Voice Training and Gesture.

3. **General Course.** (2 Hrs.) Training in the fundamentals of good elocution. Especially recommended for those who are handicapped by acquired faults of speech, such as weak, harsh, and incorrectly produced voices, indistinct enunciation, inaccurate articulation, incorrect pronunciation.

First semester; T. Th., 9:00; 14 W.

4. **Declamation.** (2 Hrs.) A continuation of Course 1. Short selections are committed from various types of literature and used as the basis of exercises for enriching the quality of the voice and increasing its range and power of expression. Gesture.

Second semester; T. Th., 9:00 14 W.

Original Address.

12. **Effective Speaking.** (3 Hrs.) Speech studied as a social force. The principles of psychology applied to the problems of the public speaker. The class is conducted as an organized mass meeting and each speaker attempts to accomplish a definite end by speaking. Constant training is had in parliamentary practice.

First semester; M. W. F., 9:00; 14 W.

13. **The Speech for Special Occasions.** (3 Hrs.) Speeches illustrative of the best type of modern eloquence are studied and analyzed for the acquirement of style in speaking. Practice in the composition and delivery of orations adapted to formal occasion. This course includes practice in after-dinner speaking.

Second semester; M. W. F., 9:00; 14 W.

14. **Argumentation.** (2 Hrs.) The theory and practice of argumentative writing and speaking. The formulation and analysis of the proposition; definition, evidence, argument, fallacies, brief drawing. Practice in argumentative speaking.

First semester; T. Th., 10:00; 14 W.

15. **Debate.** (2 Hrs.) Practice in the principles of argumentation applied to oral debate.

Second semester; T. Th., 10:00; 14 W.

10. **Extempore Speaking.** (3 Hrs.) Discussion of questions from the various fields of activity. Mastery of the subject matter and command of a good vocabulary presupposed. Practice in the rapid organization of ideas and in the selection of effective illustrations and words to convey the ideas to others.

First semester; M. W. F., 11:00; 14 W.

11. **Extemporaneous and Impromptu Speaking.** (3 Hrs.) Following up Course 15 with more of the planning of the speech left to be done while actually facing the audience.

It is recommended that Courses 10 and 11 be elected only by those who have had considerable previous training in writing and speaking.

Literary Interpretation.

21. **The Art of Reading Aloud.** (2 Hrs.) A detailed study of the mental and emotional elements in literature both sacred and secular combined with constant practice in applying the correct principles of vocal interpretation. This course is recommended to all who wish to become good readers and especially to prospective teachers and ministers. Prerequisites: Courses 31 and 32 or equivalent. Given in alternate years. (Omitted in 1920-21).

First semester; T. Th., 4:00; 14 W.

22. **The Reading of the Drama.** (2 Hrs.) A continuation of Course 21 in which selections from the best classic and modern drama are made the basis of study and interpretation. Prerequisite: Course 21. Given in alternate years. (Omitted in 1920-21).

Second semester; T. Th., 4:00; 14 W.

23. **Actional Study of Classic Drama.** (2 Hrs.) A detailed study of plot, purpose, setting and characters, followed by a public presentation. Prerequisites: Courses 31 and 32 or equivalents. Given in alternate years.

First semester in alternate years; T. Th., 4:0; 14 W.

24. **Actional Study of Modern Drama.** (2 Hrs.) Similar to Course 23 but using an example of modern drama as the basis of study and interpretation. Given in alternate years. Prerequisites: Courses 31 and 32 or equivalents.

Second semester; T. Th., 4:00; 14 W.

Extra Curriculum Speaking.

Extra credit of two hours may be earned each year for speaking done under the direction of the department outside the class room. This provides for academic credit in intercollegiate debate, etc., where the head of the department thinks tha tthe work done merits credit.

31. For credit earned during sophomore year. (2 Hrs.)
32. For credit earned during junior year. (2 Hrs.)
33. For credit earned during senior year. (2 Hrs.)

RAILWAY AND HIGHWAY ENGINEERING.

Credit will be given in the College of Arts and Sciences for Courses 100 and 101 in land surveying offered in the College of Engineering. See the announcements of that college.

ROMANCE LANGUAGES AND LITERATURE.

Professor STATHERS. Associate Professor DARBY, Assistant Professors PROVOST and ROCHAT.

French.

1. **Elementary French.** (5 Hrs.) Grammar, reading and composition. Stress is laid on the pronoun and verb. Constant practice in pronunciation and oral understanding. Fraser and Squair's French Grammar.

First semester; sections, M. T. W. Th. F., at 8:00, 9:00, 11:00 and 4:00; Associate Professor DARBY, and Assistant Profesors PROVOST and ROCHAT, and ----------.

2. **Modern French.** (5 Hrs.) A continuation of Course 1. Grammar. reading, composition and oral understanding. Fontaine's En France, Laurie's Mémories d'un Collégien, Bruno's Le Tour de la France.

Second semester; sections, M. T. Th. F., at 8:00, 9:00, 11:00, 4:00; Asociate Professor DARBY, Assistant Professors PROVOST and ROCHAT, and ----------.

3. **Fiction of the Nineteenth Century.** (3 Hrs.) Reading and study of representative works from Mérimée, George Sand, Victor Hugo, Alphonse Daudet, Guy de Maupassant, Paul Margueritte, Pierre Loti, Anatole France.

First semester; first section, M. W. F., 4:00; Assistant Professor PROVOST, 19 W.; second section, M. W. F., 10:00; ----------.

4. **Advanced Grammar and Composition.** (2 Hrs.) Detailed study of the parts of speech and review of verbs. Composition and dictation based on matter illustrative of the work. Given in connection with Course 3.

First semester; first section, T. Th., 8:00; Assistant Professor PROVOST, 19 W.; second section, T. Th., 9:00; ----------; third section, T. Th., 10:00; Assistant Professor ROCHAT, 13 W.

5. **France and the French.** (3 Hrs.) Study of the country from a commercial and geographical standpoint; Parisian and provincial life; conversation in French on questions of popular interest; collateral reading and reports.

Second semester; first section, M. W. F., 4:00; Assistant Professor PROVOST, 19 W.; second section, M. W. F., 10:00; ----------.

6. **Drama of the Nineteenth Century.** (2 Hrs.) Reading and study of several plays chosen from the works of Alfred de Musset, Scribe, Augier, Dumas, Bornier, Sardou, Lemaître, Rostand. Given in connection with Course 5.

Second semester; first section, T. Th., 8:00; Assistant Professor PROVOST, 19 W.; second section, T. Th., 10:00; ----------; third section, T. Th., 11:00; Assistant Professor ROCHAT. 13 W.

7. **The Classic School.** (3 Hrs.) This course includes the study of the origin and development of classic literature and the lives and works of the leading authors from the Pléiade to Molière. Lectures, readings and reports.

First semester; M. W. F., 9:00; Assistant Professor ROCHAT, 13 W.

8. **The Classic School after Molière.** (3 Hrs.) A continuation of Course 7, comprising the study of the remaining authors of the seventeenth century and the principal authors of the eighteenth century. Essays, collateral reading and reports on related topics of interest of the period.

Second semester; M. W. F., 9:00; Assistant Professor ROCHAT, 13 W.

9. **French Syntax and Conversation.** (2 Hrs.) Careful review of the parts of speech and study and application of them by means of original sentences. Conversation based on anecdotes and short stories both original and from texts.

First semester; T. Th., 9:00; Professor STATHERS, 11 W.

10. **Advanced French Discourse.** (2 Hrs.) A continuation of Course 9. Study and application of idiomatic construction in order to acquire facility in expression both in writing and in speaking. Paraphrasing and discussion in French based on subjects of moderate difficulty.

Second semester; T. Th., 9:00; Professor STATHERS. 11 W.

NOTE.—At least seven of the preceding courses are prerequisite to Courses 11 to 22, which, as far as it is convenient, are given in French.

11. **The Romantic Movement.** (3 Hrs.) Lectures on the origin, development and decline of romanticism. Study of representative works of the first half of the nineteenth century. Essays, collateral reading and reports.

First semester; M. W. F., 10:00; Professor STATHERS, 11 W.

12. **French Literature since 1850.** (3 Hrs.) Careful study of the different literary groups and schools of the period, critical reading of representative works of the leading authors and lectures on subjects of special interest.

Second semester; M. W. F., 10:00; Professor STATHERS, 11 W.

13. **The Novel in France.** (2 Hrs.) Origin and development of the novel, reading and comparison of representative works from the earliest appearance to the present time. Lectures, essays and reports. (Omitted 1920-21).

First semester; T. Th., 10:00; Associate Professor DARBY, 14 W.

14. **French Lyric Poetry.** (2 Hrs.) Critical reading of representative poems from François Villon to the present. Versification and poetic forms; lives and works of the leading poets and their groups and schools. (Omitted 1920-21).

Second semester; T. Th., 10:00; Associate Professor DARBY, 14 W.

15. **Early French Drama.** (3 Hrs.) Open to seniors and graduate students. Origin of the drama, its early development during the Middle Ages and Renaissance period; study of representative dramatic productions of those periods. (Omitted 1920-21).

First semester; M. W. F., 11:00; Professor STATHERS, 11 W.

16. **Advanced Composition and Phonetics.** (3 Hrs.) Open to seniors and graduate students. Study of phonetics and idiomatic construction accompanied by a systematic review of French syntax. Phonetic transcription and daily themes.

Second semester; M. W. F., 11:00; Professor STATHERS, 11 W.

17. **Contemporary French Drama.** (2 Hrs.) Lectures on the present tendencies of the French stage, its influence and its importance. Readings and reports on recent dramatic productions. (Omitted 1920-21).

First semester; T. Th., 10:00; Associate Professor DARBY, 18 W.

18. **Topic from Nineteenth Century Literature.** (2 Hrs.) This course is based upon the life and works of some author of the period or upon some literary group whose work and influences are studied. (Omitted 1920-21).

Second semester; T. Th., 10:00; Associate Professor DARBY, 18 W.

19. **Historical French Grammar.** (3 Hrs.) Open only to graduate students. Study of the origin and development of modern French syntax from popular Latin through old French and the various formative periods of the language. Reading of selected works best suited to illustrate this development. (Omitted 1920-21).

20. **Literature of the Sixteenth Century.** (3 Hrs.) Open only to seniors and graduate students. Lectures on the French Renaissance and study of the lives and works of Rabelais, Calvin, Marot, Montaigne. Essays and collateral reading.

First semester; M. W. F., 11:00; Professor STATHERS, 11 W.

21. **Old French.** (3 Hrs.) Open only to graduate students. Study of Old French from the standpoint of derivation, inflection and syntax. Reading of selected and illustrative works.

22. **Literature of the Middle Ages.** (3 Hrs.) Open only to graduate students. General survey of the period and study of selections from leading literary productions from the eleventh to the close of the fifteenth century. (Omitted 1920-21).

Italian.

31. **Elementary Italian.** (3 Hrs.) Pronunciation, grammar. easy reading, composition and oral understanding. Marinoni's Italian Grammar and Italian Reader.

First semester; M. W. F., 9:00; Associate Professor DARBY, 14 W.

32. **Modern Italian.** (3 Hrs.) A continuation of Course 31. Reading in class of Manzoni's I Promessi Sposi and selections from other modern authors. Composition, dictation and conversation.

Second semester; M. W. F., 9:00; Associate Professor DARBY, 14 W.

NOTE.—Second year courses in Italian are offered when there is sufficient demand for them.

Spanish.

41. **Elementary Spanish.** (5 Hrs.) Grammar and reading with practice in pronunciation, composition and oral understanding. Hills and Ford's First Spanish Course and Roessler and Remy's First Spanish Reader.

First semester; first section, 8:00; Associate Professor DARBY, 14 W.; second section. 11:00; Assistant Professor PROVOST, 19 W.; third section, 10:00; _____.

42. **Modern Spanish.** (5 Hrs.) Reading and study of three or four works selected from the following authors: Perez Galdós, Palacio Valdés. Valera, Alarcón, Blasco Ibáñez. Composition and conversation.

Second semester; first section, 8:00; Associate Professor DARBY, 14 W.; second section, 11:00 Assistant Professor PROVOST, 19 W.; third section, 2:00; ----------.

43. **Commercial Spanish.** (3 Hrs.) Business correspondence and commercial terms; conversation in Spanish on topics relating to travel. daily life and questions of present interest. Themes, collateral reading and reports. (Omitted 1920-21).

First semester; M. W. F., 9:00; Professor STATHERS, 11 W.

44. **Classic Drama, the Golden Age.** (3 Hrs.) Critical reading of selected works of Lope de Vega and Calderón and their contemporaries. Papers in the lives. works and times of these authors. (Omitted 1920-21).

Second semester; M. W. F., 9:00; Professor STATHERS, 11 W.

45. **Drama of the Nineteenth Century.** (2 Hrs.) Reading and study of some of the principal works of such modern Spanish authors as Moratin, Nuñez de Arce, Echegaray, Ayala, Avellaneda.

First semester; first section; T. Th.; ----------; second section, T. Th., 11:00; Professor STATHERS, 11 W.

46. **Spanish Composition and Conversation.** (2 Hrs.) Themes based on phases and incidents of daily life. Conversation and narration based on anecdotes and short stories both original and from texts.

Second semester; first section; T. Th., 8:00; ----------; second section, T. Th., 11:00; Professor STATHERS, 11 W.

47. **Early Spanish Drama.** (3 Hrs.) Open only to graduate students. Study of the drama from its most remote origin to the time of Lope de Vega; reading of works illustrating its early development. (Omitted 1920-21).

First semester; M. W. F., hours to be arranged; Professor STATHERS, 11 W.

48. **Early Spanish.** (3 Hrs.) Open only to graduate students. Study of the literature in the first centuries of its development, reading of the Cid. (Omitted 1920-21).

Second semester; M. W. F., hours to be arranged; Professor STATHERS, 11 W.

49. Latin America. (3 Hrs.) Study in Spanish of the lands and people from a geographical and historical standpoint with conversation in Spanish based on the texts read. Collateral reading and reports.

First semester; first section, M. W. F., 9:00; Professor STATHERS, 11 W.; second section, M. W. F., 11:00; _____.

50. Contemporary Literature. (3 Hrs.) Study of several works of leading Latin American and Spanish authors with lectures and collateral reading on contemporary tendencies.

Second semester; first section, M. W. F., 9:00; Professor STATHERS, 11 W.; second section, M. W. F., 11:00; _____.

STEAM AND GAS ENGINEERING.

Credit will be given in the College of Arts and Sciences for Courses 121 in thermodynamics, 122 in heat engines, and 127 in heating and ventilating offered in the College of Engineering. For detailed announcements of thes courses see the announcements of that college.

ZOOLOGY.

Professor REESE and Associate Professor CHIDESTER.

NOTE.—For description of zoological laboratories see page 24.

The courses in this department are intended to serve as a means of general culture and to prepare students to become investigators and teachers of zoology. A wide field is offered for investigation in the organization, functions, habits, and evolution of animal life. Upon the results of such investigations rest to a large extent the sciences of medicine, psychology. and sociology. Courses 1, 2. 9, 10, 23 and 24 are of especial interest to teachers. Courses 1 and 2 are required of students preparing to enter the study of medicine.

1. Animal Biology. (4 Hrs.; see Course 23.) A study chiefly of invertebrate animals, with an introduction to the vertebrates. Hegner's College Zoology. Laboratory fee, $5.00.

First semester recitation, T. Th., 8:00; or 9:00; laboratory, first section, M. F., 2:00-4:30; second section, T. Th., 2:00-4:30; third section, W., 2:00-4:30 S., 8:30-11:00; Professor REESE, Associate Professor CHIDESTER and assistants, 49 and 50 W.

23. Animal Biology and Economic Zoology. (5 Hrs.) The same course as Zoology 1, with the addition of one recitation or lecture per week on the economic aspects of the different groups of animals. Hegner's College Zoology and Reese's Economic Zoology. Not open to those who have credit for Course 1. Laboratory fee, $5.00.

First semester; same hours as in Zoology 1, with the additional recitation on Tuesday at 11:00; Professor REESE. Associate Professor CHIDESTER and assistants. 49 and 50 W.

2. **Vertebrate Zoology.** (4 Hrs.; see Course 24.) Dissection of the dogfish, frog, and rat. Lectures and recitations upon the biology, comparative anatomy, and evolution of vertebrates. Prerequisite: Zoology 1 or an equivalent. Laboratory fee, $5.00.

Second semester; recitation, T. Th., 8:00, or T. Th., 9:00; laboratory, first section, M. F., 2:00-4:30; second section, T. Th., 2:00-4:30; third section, W.. 2:00-4:30, S., 8:30-11:00; Professor REESE, Associate Professor CHIDESTER and assistants, 49 and 50 W.

24. **Vertebrate Zoology and Economic Zoology.** (5 Hrs.) A continuation of Zoology 23, with the same texts and fees. Prerequisite: Course 23.

Second seester; same hours as in Zoology 23. Professor REESE, Associate Professor CHIDESTER and assistants, 49 and 50 W.

6. **Vertebrate Embryology.** (3 Hrs.) Cleavage, gastrulation and the formation of germ layers are studied in the frog and chick; the development of organs in the chick and pig; these materials are supplemented by sections and cleared preparations of human embryos. Reese's Vertebrate Embryology. Prerequisite: Course 2 or an equivalent. Laboratory fee, $3.00.

First semester; T. Th., 2:00-5:00; Professor REESE, 47 W.

9. **Methods of Zoology.** (2 or 3 Hrs.) A practical course in the methods of collecting, preserving, injecting, making microscopic preparations, etc. Lectures and laboratory work. Prerequisites: Courses 1 and 2 or an equivalent. Laboratory fee, $3.00 to $5.00.

First and second semester; M. W., 8:00-10:00; (for 2 hrs.); M. W. F., 8:00-10:00; (for 3 hrs.); Associate Professor CHIDESTER, 51 W.

10. **Principles of Biology.** (3 Hrs.) This course deals with the conditions of animal life; habits, reactions, food relations, regeneration, etc.; the course of organic evolution; eugenics, etc. Lectures, recitations and assigned readings. Lull's Organic Evolution. Prerequisite: Zoology 1 or an equivalent, except by special permission.

Second semester; M. W. F., 11:00; Professor REESE. 49 W.

15. **Comparative Anatomy, Histology, and Embryology.** (Credit in proportion to work done.) An advanced course; to be taken ordinarily only after all of the preceding courses have been completed. Laboratory fee, $3.00 to $5.00.

First and second semesters; hours to be arranged; Profesor REESE and Associate Professor CHIDESTER, 51 W.

19. **Current Literature.** (1 Hr.) Open to seniors and graduate students. The purpose of this course is to familiarize the student with the character of the work that is being published in the best known American and foreign zoological journals.

First and second semester; hours to be arranged; Professor REESE, 51 W.

20. **Research Work.** (Credit in proportion to work done.) Properly qualified students may undertake research work upon the anatomy or physiology of animals. Primarily for graduates. Laboratory fee, $3.00 to $5.00.

First and second semesters; hours to be arranged; Professor REESE and Associate Professor CHIDESTER, 51 W.

22. **Animal Histology.** (3 Hrs.) An advanced course in which a study is made of invertebrate and non-mammalian vertebrate tissues. Lectures, recitations, and laboratory work. Prerequisites: Zoology 1 and 2 or equivalents. Laboratory fee, $3.00.

First semester; M. W. F., 8:00-10:00; Associate Professor CHIDESTER, 51 W.

NOTE—For courses in entomology see page 94.

THE COLLEGE OF ENGINEERING AND MECHANIC ARTS

THE FACULTY.

FRANK BUTLER TROTTER, A.M., LL.D., *President of the University*

CLEMENT ROSS JONES, B.S.C.E., M.M.E., *Dean and Professor of Power Engineering*

FREDERICK LINCOLN EMORY,[1] B.S., M.M.E., M.E., *Professor of Mechanics and Applied Mathematics*

RUSSELL LOVE MORRIS, C.E., *Professor of Railway and Highway Engineering*

ROLAND PARKER DAVIS, M.C.E., PH.D., *Professor of Structural and Hydraulic Engineering*

JOHN BEHNY GRUMBEIN, M.M.E., *Professor of Steam and Experimental Engineering*

ALEXANDER HARDIE FORMAN, M.M.E., PH.D., *Professor of Electrical Engineering*

ALFRED COPELAND CALLEN, E.M., M.S., *Professor of Mining Engineering*

LESLIE DAVID HAYES, B.S.M.E., M.E., *Professor of Machine Design and Construction*

EDWARD NATHAN ZERN, B.S., E.M., *Lecturer on Mining Engineering*

GEORGE PAUL BOOMSLITER,[2] M.S., *Professor of Mechanics*

----------, *Professor of Chemical Engineering*

JAMES HERBERT GILL,[3] B.M.E., M.E., *Professor of Machine Construction and Superintendent of Shops.*

ARTHUR ADAMS HALL, B.S.M.E., *Associate Professor of Electrical Engineering*

[1] Died, December 31, 1919.
[2] Appointed, February 9, 1920.
[3] Appointed, February 9, 1920.

BENJAMIN TOWNE LELAND, A.M., *Associate Professor of Industrial Education*

SIMEON THOMPSON HART,[1] M.E., *Assistant Professor of Machine Construction and Superintendent of Shops*

GEORGE WALTER GROW, B.S.M.E., *Assistant Professor of Drawing and Machine Design*

CAMDEN PAGE FORTNEY, B.S.C.E. *Chief Engineer, State Road Commission, Director of School of Good Roads*

RUFUS ASA WEST, *Instructor in Metalworking*

RAYMER EGBERT SEAMAN, *Instructor in Woodworking and Foundry Practice*.

ROBERT Z. VIRGIN,[2] *Assistant Director of Mining Extension*

CARL HENRY CATHER, B.S.M.E., *Instructor in Drawing and Machine Design*

HARRY EDWARD GRAY, *Instructor in Mining (Extension)*

THOMAS JACKSON BLAIR,[3] B.S.C.E., *Instructor in Surveying*

BENNETT SEXTON WHITE, B.S.M.E., *Instructor in Drawing and Machine Design*

HAROLD MALCOLM CATHER, B.S.M.E., *Instructor in Drawing and Machine Design*

JAMES ADDIS GRAFT, *Instructor in Mining (Extension)*

CHARLES KEPLER BROWN, *Instructor in Mining (Extension)*

ARTHUR TAYLOR BRAGONIER,[4] B.S.C.E., *Instructor in Surveying*

WILLIAM J. CARL, *Instructor in Foundry Practice*

ARCHIE FREELAND ARNOLD, *Assistant in Woodworking*

----------, *Assistant in Machine Shop Practice*

MARY LOUISE CONAWAY, A.B., *Secretary*

MARY BELLE LORENTZ, *Assistant Secretary*

CHARLES MICHAEL RUNNER, *Stationary Engineer*

----------, *Mechanician*

[1] Resigned, February 1, 1920.
[2] Resigned, October 1, 1919.
[3] Resigned, February 1, 1920.
[4] Apppointed, February 1, 1920.

SAMUEL B. BROWN, A.M., *Professor of Geology and Mineralogy*

JOHN ARNDT EIESLAND, PH.D., *Professor of Mathematics*

CHAUNCEY WILLIAM WAGGONER, PH.D., B.S.C.E., *Professor of Physics*

JOSEPH ELLIS HODGSON, PH.D., *Professor of Mathematics*

FRIEND EBENEZER CLARKE, PH.D., *Professor of Chemistry*

ENOCH HOWARD VICKERS, A.M., *Professor of Economics and Sociology*

HARLIN LESLIE MUMMA, Captain, U.S.A., *Professor of Military Science and Tactics*

DAVID DALE JOHNSON, A.M., *Associate Professor of English*

EARL READ SCHEFFEL, M.S., *Assistant Professor of Geology*

HUBERT HILL, M.S., *Assistant Professor of Chemistry*

SAMUEL MORRIS, A.M., *Assistant Professor of Chemistry*

EDWARD NOEL ROBERTS, PH.D., *Assistant Professor of Chemistry*

EDWARD SWITZER ALLEN, PH.D., *Assistant Professor of Mathematics*

OTTO STUHLMAN, JR., PH.D., *Assistant Professor of Physics*

HELMER SWENHOLT, Captain Engineers, U.S.A., *Assistant Professor of Military Science and Tactics in charge of the Engineer unit*

CHARLES BYRON JOLLIFFE, B.S., *Instructor in Physics*

WALTER SPRAGUE FROST,[1] A.M., *Instructor in Chemistry*

CHARLES CHAPMAN SNOW, A.M., *Instructor in Chemistry*

CLAIRE BEATRICE FISHER, A.B., *Student Assistant in Mathematics*

ALLEN GUY MONTGOMERY, *Student Assistant in Mathematics*

FACULTY COMMITTEES.

STUDENTS' COURSES AND HOURS: Dean JONES and Professors GRUMBEIN and FORMAN.

ENGINEERING CURRICULA: Dean JONES, Professors MORRIS, DAVIS, FORMAN, CALLEN and HAYES.

ENGINEERING SOCIETY: Professors GRUMBEIN, MORRIS, FORMAN, and Associate Professor JOHNSON.

LIBRARY: Professors DAVIS and HAYES.

[1] Resigned, February 1, 1920.

ORGANIZATION.

The College of Engineering contains the following departments:
Chemical engineering.
Electrical engineering.
Machine design and construction.
Mechanics and applied mathematics.
Mining engineering.
Railway and highway engineering and surveying.
Steam, gas, and experimental engineering.
Structural and hydraulic engineering.
Industrial education.
Summer school of mines.
School of good roads.
Mining extension.

BUILDINGS AND EQUIPMENT.

All instruction in engineering subjects is centralized in Mechanical Hall. This building is located on the southeast corner of the campus and fronts on the athletic field.

In this building are the mechanical, electrical, mining, oil and gas and the material testing laboratories; offices, recitation and lecture rooms, general and departmental drawing rooms; the shop and museums; recitation, laboratory and model rooms for the department of geology; offices and drawing rooms for the Division Engineer and the Testing Engineer of the State Road Commission and offices for the State Geological Survey.

In the drawing rooms are collections of models of bridges, furnaces, structures, mechanisms, engines, pumps, valves and valve gears; descriptive geometry models; sets of charts, state and government maps, surveys, photographs, engineering specifications, drawings, tracings, and blue prints. In connection with the drawing rooms there is a blue printing and photographic room and dark closet, equipped with electric and sun printing apparatus, photostat and photographic outfit.

The shops consist of a woodworking shop, forge shop, foundry, machine shop, sheet metal shop, pipe fitting shop, automobile repair shop and an acetylene welding plant. Each work shop occupies a separate room and is independently equipped with suitable benches, measuring instruments, tools, shop appliances ,and machines, such as are ordinarily installed in the larger engineering colleges and commercial shops. These afford ample facilities for performing all the fundamental operations in machine construction and for building machines of moderate size.

The power plant equipment consists of different types of steam

and gas engines, direct connected or belted to electric generators; a 100 K. W. Westinghouse condensing steam turbine direct-connected to a direct current generator; a 50 h. p. motor-generator set; steam boilers, equipped for burning both gas and coal; an independently fired superheater equipped with temperature controller; pumps, condensers, air compressors, steam traps and other auxiliary apparatus, providing the means for furnishing any desired kind of power.

The engineering laboratories are supplied with standard gauges, measuring, calculating, and recording instruments; apparatus and appliances for qualitative and quantitative experimental work in civil, mechanical, steam, hydraulic, electrical and mining engineering.

The testing laboratory is equipped with apparatus and machines for testing cement, iron, steel, brick, stone, and other materials of engineering. The principal machines and apparatus are an Olsen testing machine of 400,000 pounds capacity, taking tension and compression specimens up to six feet ,and beams up to sixteen feet in length; a 50,000 pound Riehle testing machine; a 20,000 pound Riehle automatic and autographic testing machine; a 10,000 pound Olsen transverse testing machine; a 60,000 inch-pound Riehle-Miller torsion machine; one Olsen and two Fairbanks cement testers; Brinnell and Shore hardness testers; a standard abrasion cylinder; a stone saw; besides smaller apparatus for testing cement, lubricating oils, and extension and deflection of materials.

The mechanical and steam laboratories contain small steam and gas engines, a compound air compressor with electrical and mechanical control, Westinghouse air brake apparatus, rotary air motors, a hot air engine, direct steam driven ventilating and power driven fans, dynamometers, friction brakes, condensers, injectors and ejectors, steam and gas engine indicators, revolution counters, planimeters, anemometers and apparatus for testing pressure gauges, indicator springs, thermometers, Venturi meters and nozzles for measuring flow of air and steam, etc. These are supplemented by the power plant equipment previously described, which affords facilities for steam and gas engine trials and boiler tests with larger units, and also provides facilities for various lines of experimental . invetigation.

The electrical laboratory is provided with a number of small compound, shunt and series-wound direct current generators and motors, ranging from 2½ to 20 kilowatt, two and three-phase alternating current generators and motors of frequencies from 20 to 133 cycles, and capacities ranging from 2 to 20 kilowatt; rotary converter and motor generator sets; an 8-horse-power variable speed Stow motor, driving a 5-kilowatt, 2-phase, 220-volt, 10 pole alternator, which may give any frequency from 40 to 133 cycles; a 3-horse-power inter-pole motor; a 3-horse-power Thompson-Ryan variable speed motor, which, driving

a small alternator, affords frequencies from 15 to 60 cycles; a revolving field, 7½ K. W. General Electric alternating current generator, wound to give from one to twelve phases; a Holtzer-Cabot, 5-horse-power induction motor set with interchangeable motor; a 5-horse-power Lamme series, single-phase motor; a 3-horse power self-starting, Century, single-phase induction motor; a 5-horse-power General Electric, split-phase motor; a 10-horse-power Stanley 2-phase induction motor equipped with compensator, condenser, and transformers; a 10-horse-power Sprague electric dynamometer; a 30 ampere General Electric Mercury-Arc Rectifier and storage battery equipment; various types of Cutler-Hammer and other speed regulating and controlling apparatus; reactances, static, auto and constant-current transformers; a welding transformer; a high potential transformer for testing insulation, etc.; a Thodarson set of experimental apparatus for demonstrating many of the principles of electricity; a Queen & Co.' testing set, with standards of capacity, induction and resistance, and with a potentimeter and standard cell, for standardizing electrical instruments; a General Electric oscillograph with accessories; standard and commercial indicating and recording measuring instruments; synchronism and power-factor indicators; dynamometers; fluxmeter; galvanometers; tachometers and speed counters; rheostats of various types and capacities; and eight distributing switchboard panels. The electric railway equipment consists of a car truck, with motors, mounted on a dynamometer; air brake outfit; three types of control equipment and a switchboard panel with indicating and recording instruments. This is supplemented also by the larger generating and controlling units in the power plant.

The hydraulic laboratory equipment consists of a compound duplex steam pump supplying water to a closed steel pressure tank, from which run headers arranged for the insertion of orifices, nozzles, and pipes supplying the various hydraulic motors; concrete storage tanks; measuring tanks and weighing scales; cascade water wheel; Venturi meter, water meter, steel weir-box, weir-guages, and other minor measuring and controlling apparatus.

The road material testing laboratory equipment consists of standard abrasion cylinder for testing paving brick; a standard three-gang motor driven Deval abrasion cylinder; motor driven ball mill; briquette machine; core drill; motor driven grinding lap and stone saw; motor driven "Dorry" hardness testing machine; standard Page impact tester, with anvil for cementation tests; road-making tools. Braun planetary pulverizer; Dulin roterex; motor driven sieve shaker, etc.

The mining laboratory is equipped with drills, coal cutting machinery, air receiver, etc.; leading types of mining rescue apparatus, pulmotor, smoke chamber for use in training with rescue apparatus,

devices for demonstrating the explosibility of coal dust, the William Clifford-James T. Beard collection of safety lamps, device for showing the length of cap with varying percentages of methane in mine air, models showing methods of working anthracite and bituminous seams of coal, small mine fan for experimental use in the study of mine ventilation, recording barometer, hygrometer, etc. Additional equipment has been installed to permit washing and concentrating tests on coal, pyrite, etc. A 7½x10½ Blake crusher made by the Allis-Chalmers Co., discharges into the boot of a Jeffrey bucket elevator. The material may be sent from the elevator to either a 30-inch trommel or a 24-inch shaking screen; these screens have 1, ¾, ½ and ¼-inch round holes, and the screened products are discharged into bins. A pair of 8x5 inch Sturtevant rolls can be used for fine crushing. A two-compartment Harz jig and a Richards pulsator jig comprise the present jigging equipment, while a Butchart table is provided for the treatment of material too fine for the jigs. A small Jeffery-Robinson coal washer can be used for demonstration and testing work, and its performance, or the performance of the jigs and tables, can be checked up by sink-and-float test machines. A bench has been equipped with crushers and grinders so that the samples from the laboratory may be prepared at once for chemical analysis.

The metallurgical laboratory is especially equipped for the study of fuels, such as coal, coke, gas and oil. In part it comprises analytical balances, Cary combination gas furnace, electric drying oven, water still, Emerson and Parr fuel calorimeters, apparatus for the analyses of gases, apparatus for the proximate analysis of coal and for determining the coking properties, etc.

The oil and gas laboratory is provided with equipment for determining the physical and chemical properties of oils and gases, as follows: Junker calorimeter, Emerson calorimeter, Saybolt standard Universal viscosometer, Pensky-Martin flash point apparatus, colorimeter ,apparatus for heat test, fire test, cold test and emulsion test; Baume hydrometers; apparatus for the determination of carbon residue in oils; the estimation of gasoline content per 1000 cubic feet of natural gas, etc. ,etc.

Transits, levels, compasses, etc., are provided for the use of students in land and mine surveying and in highway and railway construction.

The latest trade literature, catalogues, and reports of commercial developments in engineering are kept in classified files for students' reference. The University library has a thoroughly classified and indexed collection of the standard and latest books in engineering and the allied sciences, complete bound sets of the transactions of several scientific and engineering societies, and current issues and bound volumes of the principal scientific and technical periodicals.

FACILITIES FOR PRACTICAL OBSERVATION.

The University is located in a region which affords the student unusual opportunities for practical observation and education in engineering. Morgantown is situated practically at the edge of three extensive coal regions; the Fairmont, the Deckers' Creek and the Connellsville fields. The nearest large workings in the Pittsburgh coal seam are within a mile of the University, and the nearest in the Upper Freeport vein are only four miles away. Connellsville is only forty-five miles distant from Morgantown, and Pittsburgh, the center of the world's greatest iron and steel industries, is 103 miles distant.

West Virginia's gas and oil district approach within four miles of Morgantown and supply fuel for numerous factories. There are extensive brick works; twelve glass factories, producing pressed, plate, cut, window and bottle goods; two pumping stations, the Pure Oil Company's plant to the north of the city and the Standard Oil Company's plant to the south; the Sabraton plant of the American Sheet and Tin Plate Company; the Morgantown and Kingwood Railroad Shops; the Chrisman and Goodwin Foundry plant; the Morgantown Printing and Binding Company, and the factory of the Barley Foods Company.

At Manheim, on the M. & K. R. R., is located the Manheim Portland Cement works with a capacity of 1200 barrels a day; at Greer, an extensive limestone crushing plant, and at Sturgisson, the leading glass sand industry of this section.

ENGINEERING SOCIETY.

The Engineering Society is conducted by the students of the College of Engineering under the direction of a faculty committee. The society meets bi-weekly for the discussion of scientific subjects. All engineering students are urged to join the society immediately upon entrance to the college and to perform such work as its rules require. Students taking any of the four-year curricula leading to the baccalaureate degrees in engineering are required to engage actively in the work of the society during the third and fourth years. A credit of one hour will be given for the work of each of the last two years.

TUITION, FEES AND INSTRUMENTS.

All engineering students must pay the following fees at the opening of each semester: medical fee, $2.00; athletic fee, $2.50; registration fee, $2.00. The registration fee is remitted to all students who complete the registration during the first three days of the first semester and the first two days of the second semester.

In addition to the above, all students who are not cadets must pay a matriculation fee of $5.00 at the time they enter the University and a contingent fee of $3.00 each semester.

Tuition is free to residents of West Virginia, but for students not residents of West Virginia the tuition fees are $30.00 a semester or $50.00 for the year if paid in advance.

Students in laboratory courses in chemistry and physics pay special fees to cover the cost of material used. The amount of the fee is stated in the announcement of the course.

A diploma fee of $5.00 must be paid by all students at the beginning of the semester in which they expect to receive their degree.

All students must furnish their own drawing instruments. These should be of good grade for accurate work during the full course of study and for work after graduation. Students who prefer may purchase all instruments needed at the University at a cost much below the retail prices. The present cost of instruments of the grade desired is approximately $25.00. Instruments suitable for temporary use use only can be furnished at a cost of about $15.00.

ENTRANCE REQUIREMENTS.

For admission to the College of Engineering, the candidate must have credit, obtained by examination or on certificate, for fifteen units of secondary school work, i. e., the work of a standard four-year high school[1]

A. The following groups are required:
   (1) Four units of English.
   (2) Three units in one other subject.
   (3) Two units in a third subject.
   (4) Two units in a fourth subject.
   (5) Four units elective.

B. In addition to the four units of English the work indicated in (A) must include: one and one-half units of algebra, one unit of plane geometry and one-half unit of solid geometry.

C. Work in the following subjects not to exceed the number of units placed after each subject will be accepted:

English	4 units
Foreign languages[2]	
Latin	4 units
Greek	3 units
French	3 units
German	3 units
Spanish	2 units
Italian	2 units
Mathematics	
Algebra	1½ units
Plane geometry	1 unit
Solid geometry	½ unit
Trigonometry	½ unit
History and economics	
History	3 units
Civics	1 unit
Elementary economics and sociology	1 unit
Education	2 units
Drawing	
Free-hand drawing	1 unit
Mechanical drawing	1 unit
Science[4]	
Physics	1 unit
Chemistry	1 unit
Biology	1 unit
Botany	1 unit
Geology	1 unit
Zoology	1 unit
General science	1 unit
Physical geography	1 unit
Physiology	1 unit
Hyigene and sanitation	1 unit
Vocational subjects (not to exceed four units in all.)	
Agriculture	3 units
Household arts	3 units
Manual training	3 units
Bookkeeping or bookkeeping and commercial arithmetic	2 units
Shorthand and typewriting	2 units
Commercial geography	½ unit
Commercial law	½ unit
Music:—violin, organ or piano	2 units

[1] These admission requirements are effective from May 1, 1919, but graduates from high schools in 1919, or 1920, or 1921 may if they prefer enter under the require ments as stated in the University catalogue for 1918-19.

[2] Students are advised to present at least two units in one foreign language, one unit in history and one unit in physics. Students offering less than one and one-half units in algebra must make up the shortage before entering the class in college algebra. Solid geometry, whn not offered, must be made up before the bginning of the second year.

[3] Not less than two units of one foreign language will be accepted for entrance.

[4] A group of two units in science may be made by combing one unit each of physics and chemistry or one unit each of any two of the following: biology, botany, zoology, geology. A group of three units in science may be made by combining one unit each of any three of the following: physics, chemistry, biology, botany, zoology, geology.

ADMISSION WITH ADVANCED STANDING.

Students from other institutions will be given credit for work already done in accordance with the general rules for advanced standing, but at least one year of resident work will be required for any of the baccalaurate degrees in engineering.

ADMISSION AS SPECIAL STUDENTS.

Students over twenty-one years of age desiring to take special work in the College of Engineering and Mechanic Arts are required to present nine units for entrance and to conform to the general regulations of the University regarding special students. (See page 31).

Such students must give satisfactory evidence that they are prepared to take the desired studies advantageously; but if they subsequently desire to become candidates for a degree or to take a regular curriculum in engineering, they must pass the required entrance examination for that year. Special provisions are made for disabled soldiers and those taking strictly vocational courses.

CLASSIFICATION OF STUDENTS.

To be classified as a freshman in the College of Engineering a student must have credit for at least 13 units of entrance requirements; to be classified as a regular freshman he must have fulfilled all entrance requirements. To be classified as a sophomore he must have credit for twenty-six hours of college work; as a junior, sixty-four hours; as a senior, one hundred and four hours.

CREDIT FOR WORK DONE IN ABSENCE.

Students of the College of Engineering under exceptional circumstances are permitted to apply for advanced standing for not more than a total of six hours credit for practical work in the following subject done in the field, shops, or drafting room, during vacation or other periods of absence from the University: woodworking (courses 1, 2 and 3), pattern making (4), foundry practice (5), forging (7), shop work (9), pipe fitting (10), machine tool work (13 and 14), machine construction (15), electrical construction (18), mechanical drawing (20, 22, 24 and 25).

To obtain credit application must be made before the work is begun, and a daily record kept of the work done. A certified statement of work done signed by the employer accompanied by a full report prepared by the applicant, must be filed with the Dean of the College on or before October 1st. Rules of procedure and application blanks may be obtained from the Dean.

In order to obtain credit for Summer Practice 164, the same rules of procedure apply.

UNDERGRADUATE CURRICULA.

The following curricula are offered for undergraduate students in the College of Engineering:

1. A four-year curriculum leading to the degree of Bachelor of Science in Civil Engineering, with option in sanitary engineering.

2. A four-year curriculum leading to the degree of Bachelor of Science in Mechanical Engineering.

3. A four-year curriculum leading to the degree of Bachelor of Science in Electrical Engineering.

4. A four-year curriculum leading to the degree of Bachelor of Science in Engineering of Mines, with options in coal mining and oil and gas engineering.

5. A four-year curriculum leading to the degree of Bachelor of of Science in Chemical Engineering.

6. A four-year curriculum in industrial education leading to the degree of Bachelor of Science.

7. Combined science and engineering curricula extending over five or more years leading to the degree of Bachelor of Science, and Bachelor of Science in Engineering.

REQUIREMENTS FOR DEGREES.

To receive any of the baccalaureate degrees conferred in the College of Engineering the student must have satisfied all the entrance requirements and except for Curriculum No. 7 must have have received credit for one hundred and forty-eight semester hours, including a summer term equivalent to five semester hours, three of which shall be in residence and two hours in outside practice. The particular curriculum and distribution of work is prescribed for each degree as stated below.

No student is permitted to register for less than fifteen or more than twenty hours of work in any one semester.

THESES.

Any candidate for baccalaureate degrees in engineering may with the consent of his major professor prepare a thesis on some subject relating to a special branch of engineering or other department of applied science. It must be fully elaborated and accompanied by the necessary working drawing or models required for the proper elucidation of the subject of the thesis. With its accompanying drawings it will be presented for approval, first to the instructor under whose guidance it has been prepared, then to the head of the department in which the degree is to be conferred. A typewritten copy of the thesis, prepared according to official specifications for theses and signed by the instructor in charge and the head of the department, must be placed in the University library before graduation. A small fee is charged for binding.

CIVIL ENGINEERING.

The course in civil engineering has been planned so that the student will get a substantial foundation for the work of the civil engineer. Emphasis is placed on the subjects underlying the science of engineering, such as physics, mathematics, etc., and these subjects are presented to the engineering students, not as an end in themselves, but as a means for the solution of engineering problems. The professional subjects are taught by means of recitations, lectures, drawing room work, laboratory work and field work.

Civil engineering includes topographical and geodetic engineering, which has to do with the measurements of land surfaces; railroad and highway engineering, comprising the construction and maintenance of railroad lines and highways and the economic features governing them; municipal engineering, comprising the construction of sewers, water-works, etc., structural engineering, comprising the construction of buildings, bridges, foundations, docks, walls, piers, and other fixed structures; and hydraulic engineering, comprising the development of water power, the transference of water from place to place, etc. The field is so broad that no man can ever become an expert over its whole extent, but fortunately all of these various branches rest upon a very small body of principles, and the student is not forced to specialize until he enters active practice.

In addition to the Sanitary Option, outlined below, the student is offered the choice of two options in the second semester of the senior year, one of which devotes more time to the subject of railroad and highway engineering, the other to the subject of hydraulic engineering.

Optional Course in Sanitary Engineering.

Students in civil engineering who desire to specialize in sanitary engineering are permitted to substitute: Chemistry 6, Quantitative analysis, (4 hrs.), Bacteriology 3, General Bacteriology, (4 hrs.), and Chemistry 8, Organic Quantitative analysis (5 hrs.) for an equal amount of credit in other required subjects, but the subjects omitted must be approved by the faculty of the college.

UNDERGRADUATE CURRICULUM IN CIVIL ENGINEERING.

Leading to the Degree of Bachelor of Science in Civil Engineering.

First Year—First Semester.			First Year—Second Semester.		
Rhetoric and comp. (Eng. 1)	3		Rhetoric and comp. (Eng. 2)	3	
Algebra and trigonometry (Math. 34)	5		Trigonometry and analytical geometry (Math. 35)	5	
Inorganic chemistry (Chem. 1)	4		Land surveying 100	3	
Military science (1)	1		Inorganic chemistry (Chem. 2)	4	
Mechanical drawing 20	2		Military science (2)	1	
Shop work 9	2	17	Mechanical drawing 22	2	18
Engineering Lectures					

Second Year—First Semester.			Second Year—Second Semester.		
Descriptive geometry 26	3		Integral calculus (Math. 8)	3	
Advanced surveying 102	2		General physics (Phys. 8, 4)	5	
General physics (Phys. 6, 2)	5		Topographical surveying 103	2	
Differential calculus (Math. 7)	3		Statics 70	3	
Military science (3)	1		Military science (4)	1	
Qualitative analysis (Chem. 4)	2		General geology (Geol. 2)	3	
Mechanical drawing 25	2	18	Field geology (Geol. 2)	1	18

Summer work, Surveying 109—1

Summer work (out of residence), Summer practice 164—2

Third Year—First Semester.			Third Year—Second Semester.		
Mechanics of materials 71	4		Kinetics 72	3	
Mechanical laboratory 130	2		Hydraulics 73	2	
Railway location 104	3		Mechanical laboratory 131	2	
Heat engineering 120	3		Roofs and bridges 141	4	
Economic geology (Geol. 4)	3		Applied electricity 51	4	
Economics (Economics 115)	3		Money, banking and credit (Economics 105)	2	
Engineering Society 162		18	Engineering Society 162	1	18

Summer work, Railroad surveying 110—2

Fourth Year—First Semester.			Fourth Year—Second Semester.		
Railway maintenance 105	3		Masonry and foundations 146	3	
Water supply engineering 149	3		Sanitary engineering 148	2	
Materials of construction 156	2		Concrete construction 147	3	
Bridge design 142	4		Advanced structures 143	3	
Roads and pavements 106	3		Cost accounting (Econ. 125)	2	
Business law 161	3		English (Eng. 14)	1	
Engineering Society 163		18	Engineering Society 163	1	
			Options from the list below	3	18
Thesis 113 or 152	3		Railroad economy 107	3	
Highway engineering 108	3		Water power engineering 150	3	

MECHANICAL ENGINEERING.

The aim of the course in mechanical engineering is to give the student such mental equipment as will enable him to deal most effectively both technically and commercially with general engineering problems. All possible practice is given in the work that an engineer is ordinarily called on to do, but greater stress is laid on a thorough knowledge of those underlying principles and methods which are the foundation of all engineering professions. To this is added a study of those economic subjects which are essential to a thorough understanding of sound business methods. Options are provided in the fourth year which enable the student to specialize in accordance with his natural inclination.

The work in pure mathematics is terminated at the end of the second year, and applications follow in the recitation room courses in mechanism, statics, mechanics of materials, dynamics, and machine design. Steam engineering begins with the course in thermodynamics in the third year and is continued by the courses in heat engines and power plant design with options in the design of steam engines and turbines. A sufficient amount of electrical engineering is given in the third and fourth years to enable the student to handle engineering operations involving the simpler electrical problems.

Drafting room work is given throughout the four years, starting with elementary mechanical drawing in the first year. The courses in mechanism, machine design and power plant design are accompanied by drawing room work, giving practical applications of the principles studied in the class room, and constant practice in the execution of drawings.

The engineering laboratories provide the students with practice in testing, handling and caring for a large variety of machinery, including steam, air, gas, hydraulic, material-testing and power-transmission machinery. One-half day a week is devoted to this work during the last two years.

The shop work, commencing in the first year, is planned to acquaint students with the fundamental tools and mechanical operations, to enable them to acquire a reasonable amount of manual dexterity, and to furnish them continuously with practical examples of the principles studied in their class rooms. A study is made of the methods used in manufacturing plants and engineering establishments, and of the principles of industrial management.

The thorough understanding of principles, the development of the reasoning faculty, and the knowledge of the sources to draw on for engineering information as it may be needed, are of the greatest importance, and take precedence over the mere acquisition of knowledge.

UNDERGRADUATE CURRICULUM IN MECHANICAL ENGINEERING.

Leading to the Degree of Bachelor of Science in Mechanical Engineering.

First Year—First Semester.

Rhetoric and comp. (Eng. 1)	3	
Algebra and trigonometry (Math. 34)	5	
Inorganic chemistry (Chem. 1)	4	
Military science (1)	1	
Mechanical drawing 20	2	
Woodworking 1 or Foundry 5	1	
Forging 7	1	17
Engineering lectures		

First Year—Second Semester.

Rhetoric and comp. (Eng. 2)	3	
Trigonometry and analytical geometry (Math. 35)	5	
Surveying 101	1	
Inorganic chemistry (Chem. 2)	4	
Military science (2)	1	
Mechanical drawing 22	2	
Foundry (5), woodworking (1) and forging (7)	2	18

Summer work, Machine shop 13—3

Second Year—First Semester.

Differential calculus (Math. 7)	3	
General physics (Phys. 6, 2)	5	
Descriptive geometry 26	3	
Military science (3)	1	
Qualitative analysis (Chem. 4)	2	
Mechanical drawing 24	2	
Pattern making 4 or Machine work 14 and Pipe-fitting 10	2	18

Second Year—Second Semester.

Intregrad calculus (Math. 8)	3	
General physics (Phys. 8, 4)	5	
Statics 70	3	
Mechanism 27	2	
Military science (4)	1	
Mechanism drawing 28	2	
Machine work 14 and Pipe-fitting 10 or Pattern making 4	2	

Summer work (out of residence), Summer practice 164—2

Third Year—First Semester.

Mechanics of materials 71	4	
Thermodynamics 121	3	
Elect. and mag. (Physics 10)	3	
Economics (Econ. 115)	3	
Mechanical laboratory 130	2	
Machine construction 15	2	
Engineering society 162		17

Third Year—Second Semester.

Kinetics 72	3	
Hydraulics 73	2	
Heat engines 122	3	
Money, banking and credits, (Econ. 105)	2	
Machine design 35	2	
Mechanical laboratory 131	2	
Shop methods 16	2	
Machine drawing 36	2	
Engineering society 162	1	19

Fourth Year—First Semester.

Power plant design 123	3	
Engineering laboratory 132	2	
Electrical engineering 53	2	
Electrical laboratory 530	2	
Business law 161	3	
Machine design 37	2	
Machine drawing 38	2	
Structural engineering 144	2	
Engineering society 163		18

Fourth Year—Second Semester.

Cost accounting (Econ. 125)	2	
Engineering laboratory 133	2	
Elements of elect. eng'g 54	2	
Electrical laboratory 540	2	
English (14)	1	
Designing and drawing 41	2	
Industrial management 46	1	
Engineering society 163	1	
Options from the list below	5	18

Steam engine design 39	2		Industrial engineering 47	3
Gas engineering 126	3		Gas engine design 45	3
Power machinery 128	3		Heating and ventilation 127	3
Steam turbines 125	3		Steam boilers 124	2
Steam engine drawing 40	2		Thesis 49 or 135	3

ELECTRICAL ENGINEERING.

The course in electrical engineering is intended to give the student that theoretical and practical instruction which will enable him to obtain a basic knowledge of the applications of electricity.

The work of the first two years is largely preparatory to the technical training of the latter two years, and parallels closely that of the mechanical engineering course. This gives the requisite foundation in English, mathematics, physics, chemistry, drafting and the elements of shop practice. Electrical construction is taken up at an early part of the course so that the student may profit by it when seeking summer employment. Some of the fundamental principles of electricity and magnetism are studied in the course in physics.

The purely electrical engineering courses begin with the third year. In the first semester of this year, the elements of electrical engineering together with illumination and signalling are studied. The theory is studied in the class room and then experimentally proven or verified in the laboratory. In the second semester this study is continued to include the design, construction and operation of direct current machinery as well as the theory of alternating currents. In addition to the electrical studies the following supplementary subjects come throughout the year: thermodynamics and heat engines; mechanics; mechanical laboratory practice; economics; and money, credit and banking.

The fourth year is largely devoted to a study of the commercial applications of electricity either directly or indirectly. The design, construction and operation of alternating current apparatus are studied in the class and the laboratory. The generation of electrical energy, its distribution and utilization, together with the economic factors to be considered are covered by the course, electrical generation and distribution, which is continued into the second semester as a design course. Previous to this second semester work in general design, the fundamentals of design are covered in the courses in electrical design and calculations and machine design, both of which are given in the first semester. The course in electric traction takes up the proper selection of electric railway equipment and the course in advanced electrical laboratory is included to give the student an opportunity for original work. In the option the student has a choice of the following subjects: industrial applications of electricity; telephone engineering; transients, surges and electric waves; high tension dielectric phenomena; thesis; differential equations; and radio telegraphy. Other courses not already mentioned in the fourth year are: business law; engineering society; hydraulics; engineering laboratory; English; and cost accounting.

UNDERGRADUATE CURRICULUM IN ELECTRICAL ENGINEERING.

Leading to the Degree of Bachelor of Science in Electrical Engineering.

First Year—First Semester.

Rhetoric and comp. (Eng. 1)	3	
Algebra and trigonometry (Math. 34)	5	
Inorganic chemistry (Chem. 1)	4	
Military science (1)	1	
Mechanical drawing 20	2	
Forging 7	1	
Woodworking 1	1	17
Engineering lectures		

First Year—Second Semester.

Rhetoric and comp. (Eng. 2)	3	
Trigonometry and analytical geometry (Math. 35)	5	
Surveying 101	1	
Inorganic chemistry (Chem. 2)	4	
Military science (2)	1	
Mechanical drawing 22	2	
Electrical construction 610	2	18

Summer work, Machine shop 13—3

Second Year—First Semester.

Differential calculus (Math. 7)	3	
General physics (Phys. 6, 2)	5	
Descriptive geometry 26	3	
Military science (3)	1	
Qualitative analysis (Chem. 4)	2	
Mechanical drawing 24	2	
Foundry 5	2	18

Second Year—Second Semester.

Integral calculus (Math. 8)	3	
General physics (Phys. 8, 4)	5	
Statics 70	3	
Mechanism 27	2	
Military science (4)	1	
Mechanism drawing 28	2	
Pattern making 4	2	18

Summer work (out of residence), Summer practice 164—2

Third Year—First Semester.

Mechanics of materials 71	4	
Thermodynamics 121	3	
Elements of electrical eng'g 50	4	
Illumination and signalling 58	2	
Mechanical laboratory 130	2	
Economics (Econ. 115)	3	
Engineering society 162		18

Third Year—Second Semester.

Kinetics 72	3	
Heat engines 122	3	
Direct current machinery 52	4	
A. C. Theory and meas. 55	3	
Mechanical laboratory 131	2	
Money, banking and credits (Econ 105)	2	
Engineering society 162	1	18

Fourth Year—First Semester.

A. C. machinery 56	3	
Machine design 35	2	
Machine drawing 36	2	
Electrical laboratory 560	2	
Elec. gen. and dist. 630	3	
Elec. design and calcul. 590	3	
Business law 161	3	
Engineering society 163		18

Fourth Year—Second Semester.

Hydraulics 73	2	
Electric traction 57	2	
Elec. gen. and dist. 630	3	
English (English 14)	1	
Engineering laboratory 133	2	
Advance elect. laboratory 600	2	
Cost accounting (Econ. 125)	2	
Engineering society 163	1	
Options from the list below	3	18

Indust. applications of elect. 65	3
Telephone engineering 68	3
Transients, surges and electric waves 62	3
High tension dielectric phenomenon 67	3

Thesis 69	3
Differential equations (Math. 9)	3
Radio-telegraphy (Phys. 11)	3

MINING ENGINEERING.

Mining engineering deals with the processes and appliances used in the extraction of minerals from within the earth. Not only must the mining engineer be thoroughly trained in mining and geology, but also in the application of the fundamental principles of civil, electrical and mechanical engineering to mining conditions.

The first two years of the course in mining engineering are devoted to a thorough training in the underlying principles of mathematics, physics and chemistry. Supplementing these are courses in surveying, including mine surveying, English, drawing, and shop work. For the last two years of the course two options are provided, one in coal mining and one in geological engineering and oil and gas production. The student is permitted to state his choice of option at the beginning of the sophomore year.

COAL MINING.

In the coal mining option the study of coal mining is taken up in the third year. This study includes the geology and classification of coals; explosives and blasting; prospecting; shaft sinking and tunneling; methods of working; haulage, hoisting and pumping; and the preparation of coal for the market. A course in the projection of mine workings and the design of mining plants runs throughout the senior year. A thorough course in mine gases and the ventilation of mines is given in the first half of the fourth year, supplemented by work in the mining laboratory. The course in fuels is designed to give the student a knowledge of the various fuels that are utilized in engineering practice, while the courses in metallurgy acquaint him with the materials and processes used in manufacture of iron and steel. The course in mine management presents the economic, social and financial considerations to be met in the successful management of a mining enterprise.

The study of steam engineering begins with the course in heat engineering, and practice in the handling and care of instruments and machinery and in the solution of practical engineering problems is offered in the mechanical laboratory. These courses are followed by courses in electrical engineering and structural engineering.

A training in the science of geology is afforded by the courses in mineralogy and general and historical geology. These courses may be supplemented by the study of the economic geology of the non-metallic minerals in the senior year, special attention being paid to the geology of coal, oil and gas. Should the student desire further work in geology a course in field geology is offered as an elective subject.

The courses in economics, money, banking and credits, business law and cost accounting furnish the fundamental business training so essential for the engineer.

UNDERGRADUATE CURRICULUM IN MINING ENGINEERING (COAL MINING OPTION)

Leading to the Degree of Bachelor of Science in Engineering of Mines.

First Year—First Semester.

Rhetoric and comp. (Eng. 1)	3	
Algebra and trigonometry (Math. 34)	5	
Inorganic chemistry (Chem. 1)	4	
Military science (1)	1	
Mechanical drawing 20	2	
Shop work 9	2	17
Engineering lectures		

First Year—Second Semester.

Rhetoric and comp. (Eng. 2)	3	
Trigonometry and analytical geometry (Math. 35)	5	
Land Surveying 100	3	
Inorganic chemistry (Chem. 2)	4	
Military science (2)	1	
Mechanical Drawing 22	2	18

Second Year—First Semester.

Differential calculus (Math. 7)	3	
General physics (Phys. 6, 2,)	5	
Descriptive geometry 26	3	
Advanced surveying 102	2	
Military science (3)	1	
Mineralogy 89	1	
Pipe fitting 10	1	
Mechanical drawing 25	2	18

Second Year—Second Semester.

Integral calculus (Math. 8)	3	
General physics (Phys. 8, 4)	5	
Statics 70	3	
Mine surveying 80	2	
Military science (4)	1	
Quan. analysis (Chem. 6)	4	18

Summer work, Surveying 109—1
and Mine surveying 90—2

Third Year—First Semester.

Heat engineering 120	3	
Mechanical laboratory 130	2	
Mechanics of materials 71	4	
Coal mining 81	3	
Geology (Geol. 2 and 21)	3	
Economics (Econ. 115)	3	
Engineering society 162		18

Third Year—Second Semester.

Kinetics 72	3	
Mechanical laboratory 131	2	
Hydraulics 73	2	
Coal mining 82	4	
Geology (Geol. 3 and 31)	4	
Money, banking and credits (Econ. 105)	2	
Engineering society 162	1	18

Fourth Year—First Semester.

Mine ventilation 83	3	
Mining design 86	2	
Structural engineering 144	3	
Electrical eng'g 53 and 530	4	
Metallurgy 85	2	
Metallurgical lab. 96	1	
Business law 161	3	
Engineering society 163		18
Thesis 99	3	
Concrete construction 147	3	

Fourth Year—Second Semester.

English (14)	1	
Mining design 87	3	
Mine management 84	1	
Electrical eng'g 54 and 540	4	
Mining laboratory 95	3	
Cost accounting (Econ. 125)	2	
Engineering society 163	1	
Options from the list below	3	18
Economic geology (Geol. 4)	3	
Fuels 93	2	

GEOLOGICAL ENGINEERING AND OIL AND GAS PRODUCTION.

This option is planned to meet the needs of the engineer who is more interested in the geological aspect of mining than in the actual operation of a mining property. There is a growing demand for the so-called mining geologist who, while he has a thorough training in the fundamentals of engineering in general and of mining engineering in particular, yet is specially qualified to work out the detailed geological features of mining properties and to make reports on them. This is peculiarly true in the case of oil and gas companies, where accurate geological knowledge in advance of actual drilling operations is of the greatest importance in the economical development of the field. Beside the opportunities offered by mining companies many of our railroads maintain corps of geologists, while the several states and the federal government are continually carrying on geological investigations. This course also offers an excellent preparation for those who propose to carry on graduate work. Sufficient latitude in the selection of electives will be permitted to allow the course to conform to the needs of the individual student.

In the junior year the course differs from the coal mining option in that organic chemistry and geological courses are substituted for the courses in coal mining. A course in field geology in which the student prepares a geological map and a complete report on an assigned area enables him to apply the geological knowledge he received in his sophomore year. The fundamentals of mining are studied in the senior year as well. The study of oil and gas geology treats of the origin, properties, distribution and mode of accumulation of oil and gas, and familiarizes the student with all the available sources of information on this subject. The course in oil and gas production and oil and gas laboratory take up the subjects of the chemical and physical properties of petroleum and natural gas, their extraction and subsequent treatment, the valuation of oil and gas properties, reports on them, and the actual testing in laboratory of various oils, oil shales, and natural gas.

A thorough grounding in the fundamentals of business is afforded by the courses in economics, money, banking and credits, business law and cost accounting.

UNDERGRADUATE CURRICULUM IN MINING ENGINEERING (OIL AND GAS OPTION)

Leading to the Degree of Bachelor of Science in Engineering of Mines.

First Year—First Semester.

Rhetoric and comp. (Eng. 1)	3	
Algebra and trigonometry (Math. 34)	5	
Inorganic chemistry (Chem. 1)	4	
Mechanical drawing 20	2	
Military science (1)	1	
Shop work 9	2	17
Engineering lectures		

First Year—Second Semester.

Rhetoric and comp. (Eng. 2)	3	
Trigonometry and analytical geometry (Math. 35)	5	
Land surveying 100	3	
Inorganic chemistry (Chem. 2)	4	
Military science (2)	1	
Mechanical drawing 22	2	18

Second Year—First Semester.

Differential calculus (Math. 7)	3	
General physics (Phys. 6, 2)	5	
General geology (Geol. 2 & 21)	3	
Mineralogy 89	1	
Descriptive geometry 26	3	
Mechanical drawing 25	2	
Military science (3)	1	18

Second Year—Second Semester.

Integral calculus (Math. 8)	3	
General physics (Phys. 8, 4)	5	
Historical geology (3 & 31)	4	
Quan. analysis (Chem. 6)	5	
Military science (4)	1	18

Third Year—First Semester.

Mechanics 76	5	
Advanced surveying 102	2	
Organic chemistry (Chem. 9)	5	
Metallurgy 85	2	
Pipe-fitting 10	1	
Economics (Econ. 115)	3	
Engineering society 162		18

Third Year—Second Semester.

Mechanics 77	5	
Hydraulics 73	2	
Mine surveying 80	2	
Economic geology (Geol. 4)	3	
Field geology (Geol. 17)	3	
Money, banking and credits (Econ. 105)	2	
Engineering society 162	1	18

Summer work (out of residence), Summer practice 164—2

Summer work; Surveying 109—1; Mine surveying 90—2

Fourth Year—First Semester.

Heat engineering 120	3	
Mechanical laboratory 130	2	
Oil and gas geology (Geol. 13)	3	
Coal mining 81	3	
Applied electricity 51	4	
Metallurgical laboratory 96	1	
Business law 161	3	
Engineering Society 163		19

Fourth Year—Second Semester.

Mechanical laboratory 131	2	
English (14)	1	
Oil and gas production 92	2	
Oil and gas laboratory 97	2	
Cost accounting (Econ. 125)	2	
Engineering Society 163	1	
Options from the list below	7	17

Economic geology (Geol. 5)	3
Concrete construction 147	3
Coal mining 82	4

Industrial chemistry (Chem. 19)	3
Fuels 93	2

CHEMICAL ENGINEERING.

The object of the four-year course in chemical engineering is to qualify young men to design, build, and manage manufacturing plants in which the products of manufacture are based on chemical processes and to fit men for professional employment as industrial chemists and chemical engineers.

The curriculum outlined on the following page is designed to give the student a thorough knowledge of the fundamental principles of chemistry, a theoretical and practical training in mechanical engineering subjects including electrical engineering, and a thorough training in industrial chemistry and the more common engineering and industrial processes based on chemical reactions.

The course includes theoretical and analytical work in inorganic, organic and industrial chemistry, mathematics, physics, theoretical and applied mechanics, mechanical drawing, shop practice, structural engineering and industrial management, heat engineering, power plant design, electrical engineering, mechanical and electrical laboratory, sanitary engineering, mineralogy and metallurgy. The subjects included in the curriculum are those offered at the present time, but additional subjects in purely chemical engineering will be added later.

Students preparing to take the course in chemical engineering should present German for entrance. In order to provide time for a broader training in language, economics, history and science, and for additional courses in applied chemistry and engineering, students are recommended to take the combination Bachelor of Science and Engineering course. By a careful selection of electives both degrees may be secured in five years.

UNDERGRADUATE CURRICULUM IN CHEMICAL ENGINEERING.

Leading to the Degree of Bachelor of Science in Chemical Engineering.

First Year—First Semester.

Rhetoric and comp. (Eng. 1)	3	
Algebra and trigonometry (Math. 34)	5	
Inorganic chemistry (Chem. 1)	4	
Military science (1)	1	
Mechanical drawing 20	2	
Woodworking 1	1	
Forging 7	1	17
Engineering lectures		

First Year—Second Semester.

Rhetoric and comp. (Eng. 2)	3	
Trigonometry and analytical geometry (Math. 35)	5	
Surveying 101	1	
Inorganic chemistry (Chem. 2)	4	
Military science (2)	1	
Mechanical drawing 22	2	
Foundry 5	2	18

Summer work, Machine shop 13—3

Second Year—First Semester

Differential calculus (Math. 7)	3	
General physics (Phys. 6, 2)	5	
Descriptive geometry 26	3	
Military science (3)	1	
Qual. analysis (Chem. 5)	4	
Mechanical drawing 24	2	18

Second Year—Second Semester.

Integral calculus (Math. 8)	3	
General physics (Phys. 8. 4)	5	
Mechanism 27	2	
Military science (4)	1	
Mechanism drawing 28	2	
Quant. analysis (Chem. 6)	5	18

Summer work, Summer practice 164—2

Third Year—First Semester.

Mechanics 76	5	
Thermodynamics 121	3	
Mechanical laboratory 130	2	
Organic chemistry (Chem. 9)	5	
Elect. and mag. (Physics 10)	3	
Engineering Society 162		18

Third Year—Second Semester.

Mechanics 77	5	
Machine design 35	2	
Machine drawing 36	2	
Mechanical laboratory 131	2	
Physical chemistry (Chem. 21)	5	
Industrial management 46	1	
Engineering Society 162	1	18

Fourth Year—First Semester.

Electrical laboratory 530	2	
Elect engineering 53	2	
Indus. chemistry (Chem. 19)	3	
Quant. analysis (Chem. 7)	3	
Economics (Econ. 115)	3	
Metallurgy	5	
Engineering Society 163		18

Fourth Year—Second Semester.

Electrical engineering 54	2	
Electrical laboratory 540	2	
English (English 14)	1	
Indus. chemistry (Chem. 22)	3	
Quantitative analysis (Chem. 8)	2	
Engineering Society 163	1	
Hydraulics	2	
Options from the list below	5	18

Electro chemistry	3		Thesis	3
Geology 2	3		Cost accounting (Econ. 125)	3

UNDERGRADUATE CURRICULUM IN INDUSTRIAL EDUCATION.

Leading to the Degree of Bachelor of Science.

The object of this course is to prepare young men and women to teach vocational subjects and to supervise vocational work in connection with the administration of the Smith-Hughes Act. The course of study is intended to give prospective students a broad practical education with special training in trade and industrial work and the science of teaching in order that they may be prepared to teach successfully trade and related subjects and the elementary non-vocational subjects in public schools, vocational high schools, night schools, part time schools, and schools in industrial plants.

The trade and industrial courses include the most common fundamental trades. The related subjects include physics, chemistry, mathematics and drawing. The non-vocational subjects include English, history, economics and sociology. The courses in the science and practice of teaching cover both the fundamental courses in education and their application to the teaching of vocational subjects.

The course is a new one and the exact requirements have not been definitely fixed. The provisional course outlined on the opposite page is intended to be suggestive rather than arbitrary. Reasonable departures may, with the approval of the faculty of the College, be permitted, but the course of study for any candidate for a degree must include ten hours in English, ten hours in mathematics, four hours in mechanical drawing, ten hours in education and a thorough knowledge of one or more trades.

Subjects marked with an asterisk will not be given during the years 1920-21 as applicants for the third and fourth years are not anticipated. The subjects omitted for 1920-21 have not been designated by number and are not announced under the head of Courses of Instruction.

Full recognition will be given for college work done at the normal schools of the state.

PROVISIONAL UNDERGRADUTE CURRICULUM IN INDUSTRIAL EDUCATION.

Leading to the Degree of Bachelor of Science.

First Year—First Semester.

Rhetoric and comp. (Eng. 1)	3	
Algebra and trigonometry (Math. 34)	5	
Inorganic chemistry (Chem. 1)	4	
Military science (1)	1	
Mechanical drawing 20	2	
Woodworking 1	1	
Forging 7	1	
General lectures		17

First Year—Second Semester.

Rhetoric and comp. (Eng. 2)	3	
Trigonometry and analytical geometry (Math. 35)	5	
Inorganic chemistry (Chem. 2)	4	
Military science (2)	1	
Mechanical drawing 22	2	
Woodworking 3	3	18

Summer work (out of residence): Woodworking 210—3

Second Year—First Semester.

English history (History 19)	3	
General physics (Phys. 1 & 2)	4	
Descriptive geometry 26	3	
Machine shop 13	3	
Military science (3)	1	
Foundry 5	2	
Forging 8	2	18

Second Year—Second Semester.

American history (Hist. 29)	3	
General physics (Phys. 3 & 4)	4	
Trade mathematics 203	2	
Mechanism 27	2	
Military science (4)	1	
Mechanism drawing 28	2	
Pattern making 4	2	
Machine shop 14	1	
Pipe-fitting 10	1	18

Summer work (out of residence): Machine shop 211—3

Third Year—First Semester.

Economics (1)	3	
English literature (Eng. 26)	2	
Philosophy of Education (Ed. 4)	3	
Principles of study (Ed. 17)	3	
*Strength of materials	3	
Empirical design 24	2	
Electrical construction 610	2	18

Third Year—Second Semester.

Economics (2)	3	
English literature (Eng. 27)	2	
Hygiene and sanitation 9	2	
Methods of teaching trades 201	3	
*Automobile repairs	2	
*Electrical construction 19	2	
*Machine design	3	18

Summer work: Automobile repairs 212—3

Fourth Year—First Semester.

Materials of commerce (24)	3	
Sociology (1)	3	
Principles and art of teaching (Ed. 10)	3	
Practical work (Ed. 24)	2	
*Sheet metal work	2	
*Plumbing	2	
*Printing	2	17

Fourth Year—Second Semester.

Labor problems (11)	3	
Vocational guidance 200	2	
Observation and practice teaching 206	3	
Mental tests and meas. (Ed. 20)	3	
*Sheet metal work	2	
*Plumbing	2	
*Printing	2	17

COMBINED SCIENCE AND ENGINEERING CURRICULUM.

The following course of study is suggested for students who expect to take an engineering degree after receiving the degree of Bachelor of Science, or who wish to take a general course with engineering subjects as a major:

English composition (English 1 and 2)	6	hrs.
English literature (English 26 and 27)	4	"
Algebra and trigonometry	7	"
Analytical geometry and calculus	9	"
Physics 6, 2, 8, 4	10	"
Mechanics 70, 71, 72	10	"
Chemistry 1, 2 and 4	10	"
Descriptive geometry	3	"
Mechanical drawing	6	"
One foreign language	20	"
Botany, zoology, geology, or entomology, any one	8	"
History, economics, or commerce, any one	8	"
Military science (when required)	4	"
Elective, preferably in science and engineering, that count toward both the bachelor of arts and engineering degrees	23	"
Total	128	"

Students who expect to take a degree in civil engineering should include Geology 2 and 4, Land surveying 100, Mechanical drawing 25, Hydraulics 73, Applied electricity 51 and Shop work 9.

Applicants for a degree in mechanical or electrical engineering should include ten hours in shop work, Mechanical drawing 24 and 28, Mechanism 27, Surveying 100, and Physics 10.

Applicants for a degree in mining engineering should include Geology 2 and 4, Chemistry 6, Land surveying 100, Physics 10, Mineralogy 98, Shop work 9 and Mechanical drawing 24.

Students who wish to prepare for teaching science, engineering or industrial subjects, may with the approval of the Committee on Classification and Grades substitute eight hours in education for an equivalent amount of required work in the science and history groups.

By following the above curriculum students may receive both the B.S. degree and the engineering degree in five years.

SPECIAL ENGINEERING CURRICULA.

1. **Elective Groups for Students in Other Colleges.** Candidates for degrees other than engineering degrees, and special students in any department of the University, are permitted to elect subjects in the College of Engineering, provided, in each case, they have had the subjects specified as prerequisites. Students who wish to take a general classical or scientific course of study before taking the engineering curriculum are advised to carry their mathematics as far as called for by the engineering curriculum, and to take some of their elective work in the College of Engineering. The engineering instructors will advise them what is best to elect.

Credits are given in the College of Arts and Sciences for the following engineering courses:

Subject	Credit Hours
Mechanical drawing 20-25, 28 or 30	8
Descriptive geometry 26	3
Industrial management 46, 47	4
Elements of electrical engineering 50	4
Applied electricity 51	3
Elements of electrical engineering 53, 54	4
Direct current machinery 52	4
Theory of alternating currents 55	3
Alternating current machinery 56	3
Electrical laboratory 530, 540, 560, 600	4
Applied electricity in home and office 66	2
Statics 70	3
Mechanics of materials 71	4
Hydraulics 73	2
Dynamics 72	3
Metallurgy 85, 96	3
Land surveying 100 and 101	3
Thermodynamics 121	3
Heating and ventilating 127	3
Heat engines 122	3

In addition to the above the student may elect with the consent of his class officer, when his major subject is physics or education:

Engineering 1-18 (Mechanic arts)	10
Mechanical drawing 20-25, 28 or 30	3

2. **Partial Curriculum.** Students who have not the time or are otherwise unable to take a full curriculum, will be allowed to take a special or partial curriculum, consisting of such studies as they are prepared to take, provided that such curriculum shall have been approved by the class officer. For further information see statement of requirements for admission as special students.

SUMMER TERM.

A summer term lasting six weeks is given immediately after the close of each collegiate year. The following regular engineering courses will be offered at that time: Woodworking 1, 2, 3; Forging 7 and 8; Pipe fitting 10; Machine tool work 13 and 14; Machine construction 15; Mechanical drawing 20, 22, and Surveying 109; Railroad surveying 110 and Mine surveying 90.

Surveying 109 is given during the first week (eight hours per day for six working days) and Railroad surveying continues for two weeks. Mine surveying 90 will follow Surveying 109 for two full weeks. Machine shop 13 may be completed by full time work covering the first three weeks or may be distributed over the full term of six weeks. Hours 8:00 to 12:00, 1:00 to 5:00 every week day except Saturday afternoon. Special hours for students taking less than full work will be arranged.

Students in mechanical and electrical engineering should take Machine tool work 12, three hours in the Summer Term following the freshman year.

This work, with that taken during the preceding freshman and the following sophomore collegiate years will enable students to fill positions in shops, factories, etc., during the two other vacations with better financial advantage and with far better results in the way of practical engineering experience than if the summer work is postponed until the second vacation. Students not taking the summer shop work in the first summer term will take Machine tool work 13 (1 hr.) during the sophomore year and will then take the remaining four hours of Machine tool work 13 and 14, during the second summer term.

Students in civil and mining engineering should take the residence courses in surveying at the time scheduled, but Summer Practice 164 may be taken out of residence during any vacation period.

Students who are regular in their work are urged to spend all their vacation periods in practical work, but students who are irregular or have conditions should so far as possible take advantage of the summer school to make up their deficiencies.

In cases where students have exceptional opportunities in the way of practical summer work in commercial machine shops and engineering corps, along the line covered by the University courses, credit will be given for such work, the amount to be determined after an examination of each individual case.

CURRICULA FOR GRADUATE STUDENTS IN ENGINEERING.

Graduate courses lead to the professional degrees of Master of Science in Civil Engineering, Master of Science in Mechanical Engineering, Master of Science in Electrical Engineering, and Master of Science in Engineering of Mines, respectively. They consist of advanced engineering courses aggregating twenty-four semester hours and a thesis, and require one year of resident study and work at the University.

A candidate for a professional degree is required to have completed the prescribed four-year curriculum of undergraduate study in that department of the college in which he proposes to take a degree, or to have completed such a curriculum or its equivalent at some other institution of recognized standing, conferring the same or an equivalent baccalaureate degree. In the latter case, the diploma and other certificates of proficiency should be presented.

There is no fixed curriculum of subjects for any of these degrees, but the curriculum of study or investigation is arranged to suit the needs of each candidate, subject to the University regulations governing candidates for the master's degree. (See page 39). Each candidate for a degree must select his major subject in the department in which his degree is to be taken and submit a thesis showing attainment in some phase of this subject.

PROFESSIONAL DEGREES FOR WORK IN ABSENTIA.

The University confers the following professional degrees: Civil Engineer (C.E.), Mechanical Engineer (M.E.), Electrical Engineer (E.E.), and Engineer of Mines (E.M.), upon graduates of the College of Engineering of the West Virginia University on the basis of practical experience and study in absentia, the presentation of a thesis and an oral final examination.

To be eligible a candidate for a professional degree must have been in active practice of his profession for at least five years since receiving his first degree and must have been in responsible charge of important work for at least two years, and must be qualified to design as well as direct engineering work.

Application for registration as a candidate for a degree should be made not later than the first day of October in the year in which the degree is expected. Detailed regulations and registration blanks may be obtained from the Dean of the College of Engineering.

COURSES OF INSTRUCTION.

In the following announcements, the name of the course is followed by its credit value in semester hours. A credit of one semester hour is given for a lecture or recitation course meeting one hour per week for one semester and requiring two hours of preparation for each lecture or recitation.

Credit for practical work in the shops, drawing rooms, laboratories and field, is given on the basis of the actual time required, including the preparation of reports and the writing of notes, three hours actual work counting as one recitation hour.

DRAWING, MACHINE DESIGN AND CONSTRUCTION.

Professor HAYES, Professor GILL, Assistant Professor GROW and Messrs. WEST, SEAMAN, C. H. CATHER, H. M. CATHER and WHITE.

1. **Woodworking.** (1 Hr.) For freshmen. Required of all candidates for engineering degrees. Instruction in carpentry; exercises with the fundamental edge tools in soft and hard woods and in making typical framed work; wood turning; face plate work; boring, finishing, and polishing.

Either semester; two periods weekly, one-half semester only: Mr. SEAMAN. (Also given in Summer Term.)

2. **Woodworking.** (1 Hr.) Optional for candidates for degrees in the College of Agriculture. Includes instruction in carpentry; exercises with fundamental edge tools in soft and hard woods, with especial attention to the making of typical framed structures.

Second semester; T. Th., 8:00-10:00; Mr. SEAMAN, 203 M. H. (Also given in Summer Term.)

3. **Woodworking.** (3 Hrs.) Advanced work for vocational students and special students, who are allowed to specialize along the lines of their choice. Prerequisite: Woodworking 1 or 2.

Second semester; hours to be arranged; Mr. SEAMAN. Also given in Summer Term.)

4. **Pattern Making.** (2 Hrs.) Required of all candidates for degrees in electrical and mechanical engineering. The production of patterns for castings for machine construction and other work to be executed later in machine shop. Prerequisite: Woodworking 1, and Foundry 5.

Either semester; two periods weekly.

5. **Foundry Work.** (2 Hrs.) Required of all candidates for degrees in electrical, mechanical and chemical engineering. Floor, bench and machine molding; core room work; mixing of iron, brass and aluminum for melting.

Either semester; two periods weekly; Mr. SEAMAN and Assistant.

6. **Foundry Work.** Advanced work for special students. Continuation of Foundry 5.

Semester and hours to be arranged; Mr. SEAMAN, 1 M. H.

7. **Forging.** (1 Hr.) Required of all candidates for degrees in electrical, mechanical and chemical engineering. Instruction in the care of forges; forming and welding of iron and steel; and hardening, tempering and annealing of steel.

Either semester; two periods weekly, one-half semester only; Mr. WEST.

8. **Forging.** Advanced work for special students. Continuation of Forging 7.

Hours to be arranged; Mr. WEST, 2 M. H.

9. **Shop Work.** (2 Hrs.) Required of all candidates for degrees in civil engineering and engineering of mines. Instruction in woodwork, forging, and machine shop practice.

First semester; two periods weekly; Professor GILL, Mr. WEST, Mr. SEAMAN.

10. **Pipe Fitting.** (1 Hr.) Required of all candidates for degrees in electrical and mechanical engineering.

Either semester; two periods weekly, one-half semester only; Mr. WEST.

13. **Machine Tool Work.** (3 Hrs.) Required of all candidates for degrees in electrical, mechanical and chemical engineering. Hand work and elements of machine work. Lectures and shop work.

Summer Term, 8:00 to 12:00; 1 to 5:00; Professor GILL. (This course is also given during the collegiate year; hours to be arranged).

14. **Machine Tool Work.** (1 Hr.) Required of all candidates for degrees in electrical and mechanical engineering. Continuation of Machine tool work 13, which is a prerequisite. Advanced work on planer, milling machine, and grinder. Lectures and shop work.

Either semester; two periods weekly, one half semester only; Professor GILL.

15. **Machine Construction.** (2 Hrs.) Required of all candidates for degrees in mechanical engineering. Continuation of Machine tool work 14 with special attention to assembling, fitting and erecting of machines. Study of principles of heat treatment. Lectures and shop work.

First semester; two periods weekly; Professor GILL.

16. Shop Methods. (2 Hrs.) Required of all candidates for degrees in mechanical engineering. Continuation of Machine construction 15. Study of machine and other shop methods for limited and wholesale production, use of jigs and templates and of special machines and processes; work shop appliances in general; cost of machine work. Shop and laboratory work; lectures, inspection trips, reading, etc.

Second semester; two periods weekly; Professor GILL.

17. Machine Construction. Advanced work for special students. Continuation of Machine construction 15 and Shop methods 16.

Hours to be arranged; Professor GILL.

***20. Mechanical Drawing.** (2 Hrs.) For freshmen. Required of all candidates for engineering degrees. Care and use of drawing instruments, plain lettering, including proficiency in at least one style, orthographic projection, isometric projection.

First semester; two periods weekly; Assistant Professor GROW, and Messrs. C. H. CATHER, H. M. CATHER and WHITE.

***21. Mechanical Drawing.** (2 Hrs.) Primarily for students in home economics. Use of drawing instruments, practice in reading of drawings, designing and drawing of furniture and of room and house plans.

First semester; T. Th., 2:00; Professor HAYES, 207 M. H.

***22. Mechanical Drawing.** (2 Hrs.) For Freshmen. Required of all candidates for engineering degrees. Continuation of Mechanical drawing 20. Tracing, engineering sketches and working drawings from models, and drawing machine parts from proportions obtained from empirical formulas.

Second semester; two periods weekly; Assistant Professor GROW and Messrs. C. H. CATHER, H. M. CATHER, and WHITE.

***23. Mechanical Drawing.** (2 Hrs.) Elective for students in agriculture. Use of drawing instruments, practice in reading of drawings, building plans, designing and drawing of framed structures and their details.

Second semester; M., 2:00, S., 8:00; Assistant Professor GROW.

***24. Empirical Design.** (2 Hrs.) Required of all candidates for degrees in electrical, mechanical and chemical engineering. Continuation of Mechanical drawing 22. Detail and assembly drawings from proportions obtained from empirical formulas. Also a study of the purpose, characteristics, and stock sizes of various standardized machine parts.

First semester; two periods weekly; Assistant Professor GROW and Messrs. C. H. CATHER and H. M. CATHER.

*25. **Mechanical Drawing.** (2 Hrs.) Required of all candidates for degrees in civil engineering and engineering of mines. Continuation of Mechanical drawing 22. Drawing room conventions for representation of materials, details of topography, wooden framing, structural steel shapes and framing, etc., lettering of titles, map tracing.

First semester; two periods weekly; Assistant Professor GROW and Mr. C. H. CATHER.

*26. **Descriptive Geometry.** (3 Hrs.) Required of all candidates for engineering degrees. Orthographic projection in the four quadrants; problems of the point; line and plane; tangencies; intersection of plane and curved surfaces; developments of single curved surfaces. Prerequisite: Mechanical drawing 20.

First semester; three periods weekly; Professor MORRIS, Assistant Professor GROW, and Messrs. C. H. CATHER and H. M. CATHER.

27. **Mechanism and Machinery.** (2 Hrs.) Required of all candidates for degrees in electrical, mechanical and chemical engineering. To accompany Mechanism drawing 28. Analysis and classification of mechanisms; diagrams of relative velocities of machine parts; transmission and change of motions. Lectures and recitations. Prerequisite: Mechanical drawing 22.

Second semester; two periods weekly; Assistant Professor GROW and Messrs. C. H. CATHER, H. M. CA9HER and WHITE, 208 M. H.

*28. **Mechanism Drawing.** (2 Hrs.) Required of all candidates for degrees in electrical, mechanical and chemical engineering. To accompany Mechanism and Machinery 27. Drawing and diagrams of mechanical movements, velocity diagrams, graphical solution of problems, design and drawing of gear teeth. Prerequisite: Mechanical Drawing 22.

Second semester; two periods weekly; Assistant Professor GROW and Messrs. C. H. CATHER, H. M. CATHER and WHITE.

35. **Machine Design.** (2 Hrs.) Required of all candidates for degrees in electrical, mechanical and chemical engineering. To accompany Machine Drawing 36. Elements of machine design, conventional and rational proportioning of parts; mechanics of machinery; influence of material and treatment on design. Prerequisites: Mechanics 71 and Mechanism and Machinery 27 and 28.

Either semester; two periods weekly; Professor HAYES.

36. **Machine Drawing.** (2 Hrs.) Required of all candidates for degrees in electrical, mechanical and chemical engineering. To accompany Machine Design 35. Designing and drawing of machine elements and finally of complete machine.

Either semester; two periods weekly; Professor HAYES and Mr. WHITE.

37. Advanced Machine Design. (2 Hrs.) Required of all candidates for a degree in mechanical engineering. Continuation of Machine design 35. To accompany Designing and Drawing 38. Graphical solutions of problems in machine forces; theory of elasticity; dynamics of machines, governors, reciprocating parts, fly-wheels, running balance, whirling of shaffs, etc. Lectures and recitations.

First semester; two periods weekly; Professor HAYES.

38. Designing and Drawing. (2 Hrs.) To accompany Advanced Machine Design 37.

First semester; two periods weekly; Professor HAYES and Mr. WHITE.

39. Steam Engine Design. (2 Hrs.) Optional for fourth year students in mechanical engineering. To accompany Designing and drawing 40. Detailed study of modern steam engine; comparison of rational and empirical formulae. Dynamics of machines; governors, valve gears, reciprocating parts and fly-wheels. Lectures and recitations. Prerequisites: Machine Design 35 and 37; and Machine Drawing 36 and 38.

Second semester; two periods weekly; Professor HAYES.

40. Designing and Drawing. (2 Hrs.) Optional for fourth year students in mechanical engineering. To accompany Steam engine design 39.

Second semester; two periods weekly; Professor HAYES.

41. Designing and Drawing. (2 Hrs.) Required of all candidates for degrees in electrical and mechanical engineering. Continuation in the drawing room of Power plant design 123. Making of the working drawings showing the location of boilers, engines, auxiliaries, piping, coal and ash handling machinery, etc.

Second semester; two periods weekly; Professor HAYES.

44. Metallography. (3 Hrs.) Optional for senior students. Elements of metallography of iron-carbon and other ferrous alloys. Study of equilibrium diagram and transformation points with applications to heat treatment of steels used in engineering. Lectures, recitation and laboratory work.

Second semester; hours to be arranged; Professor HAYES; 209 M. H.

45. Gas Engine Design. (3 Hrs.) Optional for fourth year students in mechanical engineering. Prerequisite: Machine design 35.

Second semester; hours to be arranged; Professor HAYES, 207 and 208 M. H.

***46. Industrial Management.** (1 Hr.) Required of all students in electrical and mechanical engineering. Elementary study of organzation of industrial establishments, management, systems of payment, cost keeping, distribution of overhead expenses, determination of cost of production, etc.

Second semester; one period weekly; Professor HAYES.

***47. Industrial Engineering.** (3 Hrs.) Optional for fourth year students in mechanical engineering. Continuation of Industrial management 46, which is a prerequisite. Study of establishment, equipment and operation of the various types of industrial plants.

Second semester; three periods weekly; Professor HAYES.

49. Thesis. (3 Hrs.) Optional thesis requirement for the degree of B.S.M.E. The working out of some special problems in design or construction or both. See general thesis requirements, page 15.

Hours to be arranged; Professor HAYES.

ELECTRICAL ENGINEERING.

Professor FORMAN and Associate Professor HALL.

***50. Elements of Electrical Engineering with Laboratory.** (4 Hrs.) Primarily for third year students in electrical engineering. Electric and magnetic units, electric and magnetic circuits and direct current measuring apparatus, with one laboratory period a week. Prerequisite: Physics 3.

First semester; Professor FORMAN.

***51. Applied Electricity.** (4 Hrs.) Primarily for third year students in civil engineering. A brief course covering the principles and most important industrial applications of electricity. One laboratory period a week. Prerequisite: Physics 3.

Second semester; Associate Professor HALL.

***52. Direct Current Machinery.** (4 Hrs.) To follow Engineering 50. Principles underlying design, construction and operation of direct current machinery. One laboratory period a week.

Second semester; Associate Professor HALL.

***53. Elements of Electrical Engineering.** (2 Hrs.) A course for fourth year students in mechanical and mining engineering. A general study of the generation, transmission and utilization of electrical energy, and the characteristics of electrical machines. Accompanied by Electrical Engineering Laboratory 530. Prerequisite: Physics 10.

First semester; Professor FORMAN.

***530. Electrical Engineering Laboratory.** (2 Hrs.) Laboratory measurements and tests on electrical apparatus to parallel and accompany class work of Electrical Engineering 53.

First semester; Professor FORMAN.

***54. Elements of Electrical Engineering.** (2 Hrs.) A continuation of Engineering 53. Accompanied by Electrical Engineering Laboratory 540.

Second semester; Professor FORMAN.

***540. Electrical Engineering Laboratory.** (2 Hrs.) Continuation of Electrical Engineering Laboratory 530 and to accompany Engineering 54.

Second semester; Professor FORMAN.

***55. Alternating Current Theory and Measurements.** (3 Hrs.) A study of periodic currents and the application of vector analysis to circuits containing these currents. Alternating current measuring instruments and the measurements of single and polyphase power. One laboratory period bi-weekly. Prerequisite: Engineering 50.

Second semester; Professor FORMAN.

***56. Alternating Current Machinery.** (3 Hrs.) Continuation of Engineering 55. Principles of design, construction and operation of single and polyphase machinery. Accompanied by Electrical Engineering Laboratory 560.

First semester; Professor FORMAN.

***560. Electrical Engineering Laboratory.** (2 Hrs.) Experimental study of the characteristics of single and polyphase machines, inductance and capacity and their effects in a circuit. Efficiency and regulation tests of alternating current apparatus. To accompany Engineering 56.

First semester; Professor FORMAN.

57. Electric Traction. (2 Hrs.) A study of the equipment of electric railway installations with special treatment of transmission and signal systems for traction. Prerequisite: Engineering 56.

Second semester; Associate Professor HALL.

58. Illumination and Signalling. (2 Hrs.) Principles and practice of illumination. Elements of electrical transmission of intelligence over electric circuits. Prerequisite: Physics 3.

First semester; Professor FORMAN.

590. Electrical Design and Calculations. (3 Hrs.) This course requires nine hours a week in the designing room and consists of prob-

lems especially selected to make the student proficient in design and calculations utilizing the laws of electric and magnetic circuits.

First semester; Associate Professor HALL.

600. Advanced Electrical Laboratory. (2 Hrs.) Laboratory investigation and experimental study of special problems intended to give the student practice in individual research work.

Second semester; Professor FORMAN.

610. Electrical Construction. (2 Hrs.) Special construction work assigned to student according to previous experience. Assignments, for reports, will be made by the instructor to engineering literature and to electrical equipment outside the University laboratories.

Lectures by men engaged in commercial work, as well as by instructors in the University will be arranged for.

63. Electric Generation and Distribution. (3 Hrs.) Analysis of factors to be considered in the selection of electrical generating and transmitting apparatus. Study of present and future market demands for power, load curves and factors governing the economics of substation, transmission and distribution of electrical energy. Study of rates, service and obligations to public, right of way, various types of generation units, switching apparatus and transmission lines. Prerequisite: Engineering 54.

First semester; Associate Professor HALL.

630. Electrical Generation and Distribution. (3 Hrs.) To follow Engineering 63. The design and layout in the designing room of generating, switching, sub-station equipment and transmission line.

Second semester; Associate Professor HALL.

640. Electrical Research. For graduate students only. Laboratory investigations in special lines of electrical studies.

Hours and credits to be arranged; Professor FORMAN.

65. Industrial Applications of Electricity. (3 Hrs.) The use of electricity in the various industries; motor drive, the electric furnace, electric welding, electric refining of metal, etc.

Factors governing the selection of the types and sizes of motors with their control. Reports upon subjects of special interest to individual students.

Second semester; Associate Professor HALL.

***66. Applied Electricity in Home and Office.** (2 Hrs.) Primarily for students taking degrees not requiring higher mathematics. Meaning of common electrical terms; study of various methods of charging

for electrical energy; advantages to be derived in the economical use of electricity.

Second semester; Associate Professor HALL.

67. High Tension Dielectric Phenomena. (3 Hrs.) Study of the electrostatic field as influenced by conductors and dielectrics; the dielectric circuit for gaseous, liquid, and solid dielectrics; corona; theory and design of high voltage insulators. Prerequisite: Engineering 54.

Second semester; Professor FORMAN.

68. Telephone Engineering. (3 Hrs.) Study of the various commercial systems of telephony, the installation, maintenance, testing and operation of telephone systems. Long distance and radio telegraphy. One laboratory period a week. Prerequisite: Engineering 54.

Second semester; Professor FORMAN.

69. Thesis. (3 Hrs.) Special investigation or original research on some topic relating to electrical engineering.

Professor FORMAN and Associate Professor HALL.

62. Transients, Surges and Electric Waves. (3 Hrs.) The study of transient phenomena such as occur in transmission lines and high tension generating and transforming apparatus. Theory of electromagnetic wave transmission over electric circuits and its application to aerial, subterreanean and submarine signalling.

Second semester; Professor FORMAN.

MECHANICS AND APPLIED MATHEMATICS.

*Professor EMORY and Professor BOOMSLITER.

***70. Statics.** (3 Hrs.) Required of all second year engineering students. A study of the composition and solution of forces, by analytical and graphical methods; moments, couples, equilibrium, center of gravity and moment of inertia, stresses in frames and jointed structures. Prerequisite: Integral calculus.

Second semester; Professor BOOMSLITER.

***71. Mechanics of Materials.** (4 Hrs.) Required of all third year engineering students. Continuation of Course 70. The strength of materials, cylinders and riveted joints, cantilever and simple beams; timber, iron, steel, stone, concrete; design of simple structure. Prerequisite: Statics 70.

First semester; Professor BOOMSLITER.

***72. Kinetics.** (3 Hrs.) Required of all third year engineering students. Continuation of Statics 70. Laws of motion, centrifugal force; impulse, work, energy, power modulus of machines, revolving masses, impressed forces, motions of rigid bodies. Prerequisite: Statics 70.

Second semester; Professor BOOMSLITER.

***73. Hydraulics.** (2 Hrs.) Required of all engineering students. Theoretical pressure and energy of water; flow of water through orifices and tubes and over weirs; flow in conduit, pipes, canals, and rivers; current meters, water motor turbines. Prerequisite: Kinetics 72.

Second semester; Professor BOOMSLITER.

76. Mechanics. (5 Hrs.) Includes Statics 70, and first half of Mechanics of materials 71.

First semester; Professor BOOMSLITER.

77. Mechanics. (5 Hrs.) Continuation of Course 76. Includes last half of Mechanics of materials 71 and Kinetics 72.

Second semester; Professor BOOMSLITER.

* Deceased.

MINING ENGINEERING.

Professor CALLEN.

80. Mine Surveying. (2 Hrs.) Location of outcrop, shaft plumbing and the various systems of mine surveying and note keeping. The accuracy of the field work is tested by plotting the notes. Prerequisite: Advanced surveying 102.

Second semester; Professor CALLEN.

81. Coal Mining. (3 Hrs.) Occurrence, composition and classification of coal; prospecting; explosives; shaft sinking; timbering; methods of working; coal cutting and loading machines. Prerequisite: Chemistry 6, Physics 8.

First semester; Professor CALLEN.

82. Coal Mining. (4 Hrs.) A study of the various systems of haulage, hoisting and pumping; surface plants; the preparation of coal for the market. Prerequisite: Coal Mining 81.

Second semester; Professor CALLEN.

83. Mine Ventilation. (3 Hrs.) Mine air and mine gases; the ventilation of mines; mine lighting; a study of the causes and prevention of mine explosions; rescue and recovery work. Prerequisite: Coal Mining 81.

First semester; Professor CALLEN.

84. Mine Management. (1 Hr.) Mine economics, organization and care of labor, mine accounting and cost keeping, valuation of properties, welfare movements, etc. Prerequisite: Coal Mining 2.

Second semester; Professor CALLEN.

***85. Metallurgy.** (2 Hrs.) General metallurgy; the metallurgy of iron and steel. Prerequisite: Chemistry 6.

First semester; Professor CALLEN.

86. Mine Design. (2 Hrs.) The projection of mine workings and the design of mining plants to meet given conditions; preparation of working drawings, and estimates of material and cost. Prerequisite: Coal Mining 82 and registration in Structural Engineering 144.

First semester; Professor CALLEN.

87. Mine Design. (3 Hrs.) Continuation of Mine Design 86, which is a prerequisite.

Second semester; Professor CALLEN.

89. Elementary Mineralogy. (1 Hr.) A study of the physical properties, entrance, occurrence, association and alteration of about one hundred of the common mineral species and varieties, particularly

the rock-forming minerals and those of economic importance. The object of this course is to enable one to recognize at sight the minerals that are likely to be met in connection with engineering work. Prerequisite: Chemistry 2.

First semester; Professor CALLEN.

90. Mine Surveying. (2 Hrs.) This course is given in the second and third weeks following the end of the sophomore year, in continuation of the one week course in Surveying 109. Practice supplementing mine surveying 80.

Summer term; twelve working days, 8:00-12:00, and 1:00-5:00; Professor CALLEN.

92. Oil and Gas Production. (2 Hrs.) Leases and royalties; drilling and management of wells; valuation of oil and gas properties; reports on properties and prospects; size and scope of oil and gas companies; markets and supply; varieties and uses of refinery and other products of oil and gas. Addresses by oil and gas producers and other experts. Prerequisite: Geology 13.

Second semester; Assistant Professor SCHEFFEL, 112 M. H.

93. Fuels. (2 Hrs.) A study of the manufacture and utilization of solid, liquid and gaseous fuels, wood, peat, coal, coke, petroleum and natural and artificial gas. Prerequisite, senior standing.

Second semester; Profesor CALLEN.

95. Mining Laboratory. (3 Hrs.) Crushing, pulverizing, sizing and washing tests on various coals; special problems in coking, briquetting, etc. Prerequisite: senior standing in Mining Engineering.

Second semester; Profesor CALLEN.

***96. Metallurgical Laboratory.** (1 Hr.) Coal sampling; proximate analysis of coal; analysis of mine air. Prerequisite: Chemistry 6.

Second semester; Profesor CALLEN.

97. Oil and Gas Laboratory. (2 Hrs.) Calorimeter tests on oil and natural gas; the testing of lubricating oils; determination of viscosity and flash points; the analysis of gases; tests on the absorption and compression methods of deriving gasoline from natural gas; etc. Prerequisite: Chemistry 9, Geology 13.

First semester; Professor CALLEN.

99. Thesis. (3 Hrs.) An individual problem on some phase of mining. None but exceptional students having high scholastic standing will be permitted to elect this course.

RAILWAY AND HIGHWAY ENGINEERING AND SURVEYING

Professor R. L. MORRIS.

***100. Land Surveying.** (3 Hrs.) Required of all candidates for degrees in civil and mining engineering. Theory and practice of land surveying. Lectures, recitations, field practice.

Second semester; Professor MORRIS and Mr. BRAGONIER.

***101. Surveying.** (1 Hr.) Primarily for first year students. Required for degrees in mechanical and electrical engineering. Theory and use of the compass, transit and level, the laying out and measuring of areas and leveling. Prerequisite: Plane trigometry.

Second semester; Professor MORRIS and Mr. BRAGONIER.

102. Advanced Surveying. (2 Hrs.) Primarily for second year students. Required of candidates for degrees in civil and mining engineering. Continuation of Surveying 100. Transit and stadia surveys, leveling; plane table, elementary hydrographic surveying and field astronomy.

First semester; Professor MORRIS.

103. Topographical Surveying. (2 Hrs.) Primarily for second year students. Required of candidates for degrees in civil engineering. Theory and practice of topography, hydrographic and barometric surveying. Lectures, recitations, field practice and map drawing. Prerequisite: Land surveying 100.

Second semester; lecture, M., 9:00; practice hours to be arranged; Professor MORRIS.

104. Railway Location. (3 Hrs.) Primarily for third year students. Required of all candidates for degrees in civil engineering. Theory and practice of railroad surveying. Lectures, recitations, field work, and drawing. Searles' Field Engineering. Prerequisite: Land surveying 100.

First semester; T. W. F., 9:00; Professor MORRIS.

105. Railway Construction and Maintenance. (3 Hrs.) Primarily for third year students. Required of all candidates for degrees in civil engineering. Tunnels, trestles, track-work, earth-work, signaling, grading, masonry ,and drawing. Prerequisite: Railway location 104.

First semester; M. W. F., 11:00; Professor MORRIS.

106. Roads and Pavements. (3 Hrs.) Primarily for fourth year students in civil engineering. Required of all candidates for degrees in civil engineering. Location, construction and maintenance; study and comparison of various types of roads; road making materials lectures, recitations and field work.

First semester; M. W. F., 11:00; Professor MORRIS.

107. Railroad Economy. (2 Hrs.) - Optional for fourth year students in civil engineering. General theory of railroad location; effect of grades, curvature ,and distance on operating expenses and revenue; railroad finance and management.

Second semester; T. Th., 11:00; Professor MORRIS.

108. Highway Economics. (2 Hrs.) Optional for fourth year students in civil engineering. Continuation of Roads and pavements 106, with special reference to permanent improvements and maintenance of existing roads. Re-surveys, re-location, drainage, etc.

Second semester; T. Th., 8:00; Professor MORRIS.

109. Surveying. (1 Hr.) Required of candidates for degrees in civil and mining engineering. Surveying practice supplementing Courses Nos. 100, 102, 103 and 80. Prerequisite: Topographical surveying 103 or Mine surveying 80.

Summer term; first six working days, 8:00-12:00, and 1:00-5:00; Professor MORRIS.

110. Railroad Surveying. (2 Hrs.) Required of candidates for degrees in civil engineering. Surveying practice supplementing Railway location 104. Prerequisite: Railway location 104.

Summer term; the first twelve working days, 8:00-12:00, and 1:00-5:00; Professor MORRIS.

113. Thesis. (3 Hrs.) Optional thesis requirement for the degree of B.S.C.E. (See page 143).

Second semester; hours to be arranged; Professor MORRIS.

STEAM, GAS, AND EXPERIMENTAL ENGINEERING.

Dean C. R. JONES and Professor GRUMBEIN.

120. Heat Engineering. (3 Hrs.) Required of third year students in civil engineering. Elementary thermodynamics, steam properties, calorimeters, fuels, boilers, engines, pumps, compressors, gas engines, turbines. Arranged for the selection design of parts of a plant. Prerequisite: Physics 7.

First semester; Professor GRUMBEIN.

***121. Thermodynamics of Engineering.** (3 Hrs.) Primarily for third year men. Required of all candidates for degrees in mechanical, electrical and mining engineering. Mechanical theory of heat, thermodynamics of gases and vapors with special application to steam and other heat engines, compressed air and refrigeration. Prerequisites: Physics 6 and 7, and Integral calculus.

First semester; Professor GRUMBEIN.

*122. **Heat Engines.** (3 Hrs.) Required of candidates for degrees in mechanical, electrical and mining engineering. Continuation of Thermodynamics 121. Expansive working of steam and gas, principles of design, construction and operation of steam engines, air compressors, gas engines, and refrigerating machines.

Second semester; Professor GRUMBEIN.

123. **Power Plant Design.** (3 Hrs.) Open to fourth year and graduate students. Required of candidates for degrees in mechanical, mining and electrical engineering. The study of steam, gas and hydro-electric plants; selection of prime movers and auxiliary machinery for central and isolated stations; location of the plant; arrangement, sub-division into units and installation; economics, organization and management of power plants. Prerequisite: Thermodynamics 121.

First semester; Dean JONES and Professor GRUMBEIN.

124. **Steam Boilers.** (2 Hrs.) Elective for seniors. Heating value of fuels, combustion, economical production of steam; application of theory and practice in the design of steam boilers, chimneys, and accessories; steam piping and distribution. Prerequisites: Machine design 35 and Thermodynamics 121.

Hours to be arranged; Professor GRUMBEIN.

125. **Steam Turbines.** (3 Hrs.) Optional for fourth year students in mechanical engineering, and for graduate students. Flow of saturated and superheated steam and the theory and design of the steam turbine. Prerequisite: Heat engines 122.

Second semester; M. W. F., 9:00; Professor GRUMBEIN.

126. **Gas Engines and Gas Engineering.** (3 Hrs.) For fourth year and graduate students. Optional for fourth year students in mechanical enginering. The study of fuel gases, gas production and transmission, gas engines, etc. Prerequisite: Heat engines 122.

Second semester; M. W. F., 11:00; Dean JONES.

*127. **Heating and Ventilating.** (3 Hrs.) Open to fourth year and graduate students. Optional for students in mechanical engineering. Principles ,comparative merits and design of various systems of ventilating, and heating by hot air, hot water, steam electricity. A careful study of the systems in the different University buildings. Prerequisite: Thermodynamics 121, or Steam and gas machinery 120.

Second semester; M. W. F., 8:00; Professor GRUMBEIN.

130. **Mechanical Laboratory.** (2 Hrs.) Primarily for third year students. Required of all candidates for degrees in engineering. Theory, calibration and use of steam engine indicators, steam gages, thermometers; calorimeter tests of coal and natural gas; testing lubricating oil; analysis of flue gases; efficiency tests of simple engines

and pumps. Prerequisite: Physics 7 and Statics 70, and accompanying Steam and gas machinery 120 or Thermodynamics 121.

First semester; first section, S., 8:00; second section, F., 2:00; Professor GRUMBEIN.

131. **Mechanical Laboratory.** (2 Hrs.) Required of all candidates for degrees in engineering. Continuation of Mechanical laboratory 130. Tests of wrought iron, cast iron, steel, timber, stone, brick, cement, and concrete. Prerequisite: Mechanical laboratory 130 and Mechanics of materials 71.

Second semester; first section, S., 8:00; second section, Th., 2:00; Professor GRUMBEIN.

132. **Engineering Laboratory.** (2 Hrs.) Primarily for fourth year students. Required of all candidates for degrees in mechanical, electrical and mining engineering. Tests of boilers and engines, air compressors, fans, and blowers, hydraulic motors, steam heating apparatus, etc.; valve setting; flow of steam through orifices and pipes; application of Hirn's analysis. Prerequisite: Mechanical laboratory 131.

First semester; Th., 8:00; Professor GRUMBEIN.

133. **Engineering Laboratory.** (2 Hrs.) Required of all candidates for degrees in mechanical and electrical engineering. Open to graduate students. Continuation of Laboratory 132. Combined tests of performances of boilers, engines, electrical and other power transmission machinery; testing of power plants; special research work. Prerequisite: Engineering laboratory 132.

Second semester; Th., 8:00; Professor GRUMBEIN.

134. **Engineering Laboratory.** Open only to graduates. Commercial tests and research work. Prerequisite: Engineering laboratory 133. Credit will be given on the basis of the time spent in the laboratory and the progress of the students.

Hours to be arranged; Dean JONES and Professor GRUMBEIN.

135. **Thesis.** (3 Hrs.) Optional thesis requirement for the degree of B.S.M.E. Investigation or original research on some special topic relating to steam, gas or experimental engineering.

Second semester; hours to be arranged; Dean JONES and Professor GRUMBEIN.

136. **Highway Laboratory.** Open to fourth year and graduate students in civil, mechanical and mining engineering. Testing of stone, brick, sand, clay, concrete and bituminous and other materials entering into road construction, etc. Credit will be given on basis of time spent in the laboratory and the progress of the student.

Hours to be arranged; Professor GRUMBEIN.

STRUCTURAL AND HYDRAULIC ENGINEERING.

Professor DAVIS.

141. **Roofs and Bridges.** (4 Hrs.) Primarily for third year students. Required of all candidates for the degree of B.S.C.E. Design of beams, girders, roofs and bridges trusses both analytically and graphically. Complete design of a wooden roof truss, including detailed drawing. Prerequisite: Mechanics of materials 71.

Second semester; Professor DAVIS.

142. **Bridge Design.** (4 Hrs.) Primarily for fourth year students. Required of all candidates for the degree of B.S.C.E. Computations and drawings are made for the complete design of a riveted or pin-connected Pratt truss bridge. The computations determine the sections of all members, as well as the details, splices, riveting, etc. Prerequisite: Roofs and bridges 141.

First semester; Professor DAVIS.

143. **Advanced Structures.** (3 Hrs.) Primarily for fourth year students. Required of all candidates for the degree of B.S.C.E. Loading and stresses in cantilevers, continuous girders and trusses, swing bridges, and metal and concrete arches. Prerequisite: Roofs and bridges 141.

Second semester; Professor DAVIS.

144. **Structural Engineering.** (3 Hrs.) Primarily for fourth year students. Required of all candidates for the degree of B.S.E.M. (Coal mining option). A course of three recitations per week devoted to the study of the loads and stresses in simple beams, trusses and mine structures. Prerequisite: Mechanics of materials 71.

First semester; Professor DAVIS.

145. **Steel Building Design.** (3 Hrs.) For fourth year and graduate students. Elective. Mill and office buildings of steel. Design of trusses, beams, columns, and bracing for all loads; critical study of details, methods of erection, weights and costs. A small mill building is completely designed and shop drawings made for same. Prerequisite: Roofs and bridges 141.

Either semester; Professor DAVIS.

146. **Foundations and Masonry.** (3 Hrs.) Primarily for fourth year and graduate students. Required of all candidates for the degree of B.S.C.E. Sheet piling, coffer dams, cribs, metal cylinder piers, pneumatic caissons ,open caissons, etc., building foundations and underpinning. Earth pressure, masonry and design of abutments, piers,

gravity walls and spread footing. Prerequisites: Mechanics of materials 71, and Mechanical laboratory 130.

First semester; Professor DAVIS.

147. **Concrete Construction.** (3 Hrs.) Primarily for fourth year students. Required of all candidates for the degree of B.S.C.E. Mechanics underlying the design of concrete beams and columns; experimental investigations and methods of construction; design of concrete buildings, reinforced concrete retaining walls and concrete arches. Prerequisites: Roofs and bridges 141.

Second semester; Professor DAVIS.

148. **Sanitary Engineering.** (2 Hrs.) Primarily for fourth year students. Required of all candidates for the degree of B.S.C.E. A study of the design, construction and maintenance of sewers and appurtenances, and of the modern methods of sewage disposal. Prerequisite: Hydraulics 73.

Second semester; Professor DAVIS.

149. **Water Supply Engineering.** (3 Hrs.) Primarily for fourth year students. Required of all candidates for the degree of B.S.C.E. The quantity of water required for cities and towns, hydrology of drainage basins, stream flow and ground supplies; design of reservoirs, standpipes, etc.; the quality of water and water purification. Prerequisite: Hydraulics 73.

First semester; Professor DAVIS.

150. **Water Power Engineering.**—(3 Hrs.) Primarily for fourth year and graduate students. Option. Design and construction of high masonry dams, analytically and graphically; stream flow, turbines, economics of water power development, etc. Prerequisite: Hydraulics 73.

Second semester; Professor DAVIS.

151. **Hydraulic Measurements.** (1 Hr.) Primarily for fourth year graduate students. Elective. Volume of water flowing in open channels by floats and current meters. Measurement of small quantities by orifices, weirs, and other devices. Periodicals searched for experimental data. Prerequisite: Hydraulics 73.

Either semester; Profesor DAVIS.

152. **Thesis.** (3 Hrs.) For fourth year students. Optional thesis requirements for the degree of B.S.C.E. Special design, investigation or original research on some assigned topic relating to structural, hydraulic or sanitary engineering.

Second semester; Professor DAVIS.

153. Sewage and Water Purification Works. (2 Hrs.) Elective for fourth year students. A continuation of Courses 148 and 149. A detailed study of the principles and practice of the design and operation of water and sewage purification works. Prerequisites: Sanitary engineering 148 and Water supply engineering 149. (Omitted 1919-20).

154. Statically Indeterminate Structures. (4 Hrs.) For graduate students. A continuation of Course 143.. Study of various methods of design of statically indeterminate structures such as principle of least work, use of auxiliary load of unity, methods of angle changes, elastic deformation, etc. Theories of flat slabs; secondary stresses, etc. Prerequisite: Course 143.

Either semester; Professor DAVIS.

155. Advanced Bridge Design. (4 Hrs.) For graduate students. Computation and drawings made for some type of statically indeterminate structure. Prerequisite: Courses 143 and 142.

Either semester; Professor DAVIS.

156. Materials of Construction. (2 Hrs.) Primarily for fourth year students. Required of all candidates for the degree of B.S.C.E. A study of the materials used in engineering construction, including iron, steel, timber, concrete, stone, clay products, etc. Prerequisite: Mechanics of materials 71.

First semester; Professor DAVIS.

GENERAL AND MISCELLANEOUS.

165. Engineering Lectures. (No credit). Required of all freshmen in Engineering. A series of lectures designed to acquaint the engineering student at the beginning of his course with the profession he has chosen. Factors determining choice of engineering as a profession; the various kinds of engineering and the ability, training, opportunities, and responsibilities involved in each; problems and difficulties of the engineering student; the engineering point of view as applied to the student's daily environment and college life.

First semester; hours to be arranged; Dean JONES and staff.

161. Business Law. (2 Hrs.) Open to fourth year and graduate students. Essentials of a contract; applications of the law of agency, sales, partnership, and private corporations; rights, duties, and liabilities of contractors; standard specifications.

Second semester.

162. Engineering Society. (1 Hr.) Primarily for third year students. Required of all candidates for degrees in engineering. Membership, attendance and active participation in the Engineering Society. See special announcements, page 10.

Throughout the year; bi-weekly, F., 6:45 p. m.; Professor GRUMBEIN; 226 M. H.

163. Engineering Society. (1 Hr.) For fourth year and graduate students. Required of all candidates for degrese in engineering. Continuation of Engineering Society 162.

Throughout the year; bi-weekly; F., 6:45 p. m.; Professor GRUMBEIN; 226 M. H.

164. Summer Practice. (2 Hrs.) Required of all candidates for degrees in engineering. At least six weeks of practical experience in some branch of engineering activity, preferably of a character that will articulate with the student's major subjects. Students are recommended to spend all vacation periods in practical work but under exceptional circumstances the Faculty of the College of Engineering may permit the substitution of an approved practical course taken in residence. Application for summer credit should be made before beginning the work; and the work done should be certified and reported in accordance with the special rules for Summer Practice, on or before October 1st, after the work has been done. Work may be done during any vacation period.

INDUSTRIAL EDUCATION.

Associate Professor LELAND.

200. Vocational Guidance. (3 Hrs.) A course for teachers who desire suggestions and help in solving the problems of this important movement.

Second semester; Associate Professor LELAND.

201. Methods of Teaching of Trades. (3 Hrs.) This course is designed to meet the needs of men and women who have charge of the instruction in trade classes in industrial schools and in commercial and manufacturing plants.

Second semester; Associate Professor LELAND.

202. Vocational Education. (3 Hrs.) Discussion of the development of vocational education in Europe and the United States, and its organization, and administration under the Smith-Hughes Law.

Second semester; Associate Professor LELAND.

203. Trade Mathematics. (2 Hrs.) The aim of this course is to give teachers an opportunity to become acquainted with the subject matter, and the methods of presenting it.

Second semester; Associate Professor LELAND.

204. Trade Science. (2 Hrs.) A study of the application of physics and chemistry to trade work.

Second semester; Associate Professor LELAND.

205. Trade Drawing. (2 Hrs.) Information will be given concerning the organization of courses for apprentices and tradesmen; methods of teaching; and the reading of blueprints and working drawings.

Second semester; Associate Professor LELAND.

206. Observation and Practice Teaching. (3 Hrs.) The work will consist of observing classes taught by experienced teachers, planning lessons, and teaching under supervision.

Second semester; Associate Professor LELAND.

207. Observation and Practice Teaching. (3 Hrs.) Planning lessons and teaching under supervision will be the work of this course.

Second semester; Associate Professor LELAND.

210. Woodworking. (3 Hrs.) Required of all candidates for degrees in Industrial Education. The work of this course, which is to be performed out of residence for nine weeks during the summer vacation, is intended to give trade contact and practical experience to prospective teachers of trade classes. Application for credit is to be made before beginning work, and a report made upon a form to be supplied by the Department of Vocational Industrial Education immediately after the completion of the work.

211. Machine Shop. (3 Hrs.) Required of all candidates for degrees in Industrial Education. The conditions of this course are the same as those of Course 210.

212. Automobile Repairs. (3 Hrs.) Required of all candidates for degrees in Industrial Education. For conditions and description refer to Course 210.

COURSES FOR ENGINEERING STUDENTS IN THE COLLEGE OF ARTS AND SCIENCES.

Chemistry.

1. **Inorganic Chemistry.** (4 Hrs.) Primarily for freshmen in all the colleges. Prerequisite to all other courses in chemistry. Three recitation periods and two two-hour laboratory periods weekly. Laboratory fee, $5.00.

Section A, for students who offer chemistry for entrance credit.

Section B, for students who do not offer chemistry for entrance credit.

Section C, for students who offer neither chemistry for high school mathematics for entrance credit.

First semester; hours as announced in the semester schedule; Professor CLARK and staff.

2. **Inorganic Chemistry.** (4 Hrs.) A continuation of Course 1. Sections and recitation hours as in Course 1. Laboratory fee, $5.00.

Second semester; hours as announced in the semester schedule; Professor CLARK and staff.

NOTE:—One unit of algebra and one unit of plane geometry are prerequisites for all courses in chemistry except Courses 1 and 2.

5. **Quantitative Analysis and Inorganic Preparations.** (4 Hrs.) Required of students whose major is chemistry and of students in chemical engineering. Three three-hour laboratory periods weekly, with occasional recitations and assignments in addition. Laboratory fee, $12.00.

First semester; M. W. F., 2:00; Assistant Professor HILL.

4. **Quantitative Analysis.** (2 Hrs.) Primarily for engineering students. Two three-hour laboratory periods weekly. Laboratory fee, $8.00.

First semester; hours as shown in semester schedule; Assistant Professors HUBERT HILL and SAMUEL MORRIS.

6. **Quantitative Analysis.** (4 or 5 Hrs.) Required of students whose major is chemistry and of students in chemical and mining engineering. Students registered for the coal mining option will take only four hours credit. Four or five three-hour laboratory periods weekly. Laboratory fee, $10.00.

Second semester; 2:00; Assistant Professor HUBERT HILL.

7. **Quantitative Analysis.** (4 Hrs.) A continuation of Course 6. Required of students whose major in chemistry and of students in chemical engineering. Prerequisites: Physics 1, 2, 3, and 4; Mathe-

matics 3 and 4. Four three-hour laboratory periods weekly. Laboratory fee, $10.00.

Second semester; 2:00; Professor CLARK.

9. **Organic Chemistry.** (5 Hrs.) Required of students with major in chemistry, of students in chemical and mining engineering, and of premedical and pharmacy students. Three lectures and two three-hour laboratory periods weekly. Laboratory fee, $12.00.

First semester; (for major students and for engineering students); M. W. F., 11:00; T. Th., 2:00; Professor CLARK.

19. **Industrial Chemistry.** (3 Hrs.) Open to major and graduate students and to students in chemical engineering. Laboratory fee. $5.00.

First semester; M. W. F., 9:00; Professor CLARK.

22. **Industrial Chemistry.** (3 Hrs.) Open to major and graduate students and to students in chemical engineering. Laboratory fee, $5.00.

Second semester; M. W. F., 9:00; Professor CLARK.

21. **Physical Chemistry.** (5 Hrs.) Required of major students. For graduate students and chemical engineering students also. Three lectures and two three-hour laboratory periods weekly. Laboratory fee, $12.00.

Second semester; 2:00; Dr. STEARNS.

Economics.

115. **Principles of Economics.** (3 Hrs.) Required of juniors in engineering. A general course dealing with the fundamental principles which govern the consumption, production, distribution, and exchange of wealth.

First semester; hours to be arranged.

105. **Money, Credit and Banking.** (2 Hrs.) Required of juniors in engineering. The nature and functions of money; of credits and securities; principles of banking; financing of public service and industrial corporations and of public and private engineering construction work.

Second semester; hours to be arranged.

125. **Cost Accounting.** (2 Hrs.) Required of seniors in engineering. A study of the principles and methods of cost accounting with special reference to the point of view of the engineer. (Omitted in 1920-21).

Second semester; hours to be arranged.

English.

1. **Composition and Rhetoric.** (3 Hrs.) Primarily for freshmen. Required of all candidates for the bachelor's degree in all the colleges. Two themes weekly, conferences, recitations on text-books, class criticism of written exercises, lectures.

First semester; sections M. W. F. at 8:00, 9:00, 10:00, 11:00 and 4:00; T. Th. S., at hours to be arranged; Professor BARBE, Associate Professor JOHNSON and staff.

2. **Composition and Rhetoric.** (3 Hrs.) Primarily for freshmen. Required of all candidates for the bachelor's degree in all the colleges. A continuation of Course 1 with more attention to rules and principles. Two themes weekly; study of prose masterpieces as models of style and as material for themes; conferences, recitations, class criticism of written exercises, lectures. Prerequisite: English 1.

Second semester; sections M. W. F., at 8:00, 9:00, 10:00, 11:00 and 4:00, T. Th. S., at hours to be arranged; Professor BARBE, Associate Professor JOHNSON and staff.

8. **Composition and Rhetoric.** (3 Hrs.) For students who have not received credit for Course 1 in the first semester. Not open to students who have passed Course 1 with a grade of 80% or more. A practical study of composition with frequent written exercises and a study of prose models.

Second semester; M. W. F., 8:00; Miss LYTLE.

3. **Composition and Rhetoric.** (3 Hrs.) For students who have not received credit for Course 2 in the second semester. Not open to students who have passed Course 2 with a grade of 80% or more. Prerequisite: Course 1. Study of various types of prose composition with frequent written exercises and study of prose models.

First semester; M. W. F., 8:00; Mr. WILLIAMS.

14. **Technical English.** (1 Hr.) Primarily for seniors in the College of Engineering. Consideration of some special problems of technical composition, preparation, criticism, and revision of student exercses, reports, themes, etc., study of some godo examples of technical literature.

Second semester; F., 10:00; Associate Professor JOHNSON, 24 W.

Geology.

2. **General Geology.** (3 Hrs.) Not open to freshmen. The surface features of the earth, stratigraphy, and structural geology. Numerous excursions will be taken. Text-book, Pirrson and Schuchert. Prerequisite: Some knowledge of chemistry.

Either semester; first semester, section one, M. W. F., 11:00; Professor BROWN, 111 M. H.; section two, M. W. F., 10:00; Assistant Professor SCHEFFEL, 111 M. H.; second semester, M. W. F., 11:00; Professor BROWN, 111 M. H.

21. **General Geology Laboratory.** (1 Hr.) Designed to accompany or follow Geology 2. A study of the commoner rocks and rock forming minerals; drawing of structural forms; interpretation of topographic maps; use of hand instruments. Size of class limited. Laboratory fee, $1.00.

Either semester; Th., 10:00-12:00; Assistant Professor SCHEFFEL.

3. **Historical Geology.** (3 Hrs.) Not open to freshmen. A continuation of Geology 2. The history of the earth and its inhabitants as revealed in the rocks. Recitations and excursions. Text-book, Pirrson and Schuchert. Prerequisites: Geology 2 and Geology 6 and 10. Some knowledge of botany and zoology is desirable. Laboratory fee, $2.00.

Second semester; M. W. F., 10:00; Assistant Professor SCHEFFEL, 111 M. H.

31. **Historical Geology Laboratory.** (1 Hr.) Correlates with Geology 3. Study of the larger groups of fossils and of areal and structural geology. Value of maps and other illustrative material emphasized. Size of class limited. Laboratory fee, $1.00.

Second semester; W., 2:00-5:00; Assistant Professor SCHEFFEL; 111 M. H.

4. **Economic Geology.** (3 Hrs.) Designed for juniors and seniors. Treats of the occurrence and distribution of the non-metallic minerals, with attention to the geology of coal, oi,l and gas. Text-book, Ries Economic Geology. Prerequisite: Geology 2 or 6.

Second semester; M. W. F., Assistant Professor SCHEFFEL; 111 M. H.

5. **Economic Geology.** (3 Hrs.) Designed for juniors and seniors. An account of the occurrence of ore deposits and the distribution of metallic minerals. Text-book, Ries. Prerequisites: Geology 2, or Geology 6.

Second semester; M. W. F., 10:00; Professor BROWN; 113 M. H.

Mathematics.

2. **Solid Geometry.** (4 Hrs.) If offered to remove condition one-half unit.

First semester; 8:00, Assistant Professor ALLEN; 4 W. H.

Second semester; 8:00, Assistant Professor ALLEN; 4 W. H.

34. Advanced Algebra and Trigonometry. (5 Hrs.) Intended primarily for engineering students. A short review of topics in elementary algebra; radicals and imaginaries. Theory of quadratic equations with applications. Graphic algebra, logarithms, arithmetic and geometric series, the binomial theorem, theory of equations and Horner's method of solving numerical equations. Definitions and fundamental properties of the trigonometric functions and solution of the right triangle.

First and second semesters; sections at 9:00, 10:00, 11:00; Professors EIESLAND and HODGSON and Assistant Professor ALLEN; 8, 9, and 4 W.

35. Trigonometry and Analytic Geometry. (5 Hrs.) Intended primarily for engineering students. A continuation of Course 34. Solution of the general plane and spherical triangles with application to the astronomical triangle, trigonometric equations; DeMoivre's theorum; certain topics in advanced algebra with introduction to infinitesimal calculus; derivatives of algebraic functions; straight lines and conic sections.

Second semester; sections at 8:00, 9:00, and 11:00; Professors EIESLAND and HODGSON and Assistant Professor ALLEN; 8, 9, and 4 W.

7. Differential and Integral Calculus. (3 Hrs.) Prerequisite: Courses 3, 4, 5, 6.

First semester; M. W. F., conference hours, T. Th., 8:00; Professor EIESLAND; 8 W. H.

8. Differential and Integral Calculus. (3 Hrs.) This course is a continuation of Course 7.

First semester; M. W. F., conference hours, T. Th., 8:00; Professor EIESLAND; 8 W. H.

Physics.

1. Introductory Physics. (3 Hrs.) Primarily for freshmen. Required of students in the College of Agriculture. The course is based on Kimball's College Physics and presents the fundamental principles of physics and their application to every day life. See Course 2 below. Prerequisite: Plane geometry.

First semester; lectures; M. W., 8:00; Professor WAGGONER; 14 M.; quiz sections, Th., 8:00; F., 8:00 or F., 9:00.

2. Introductory Physical Laboratory. (1 Hr.) This course accompanies, and is required of all students who take Courses 1 and 6. The course consists of individual, quantitative determinations of the various physical constants, and occupies one laboratory period per week.

First semester; various sections as announced in the semester schedule; Assistant Professor STUHLMAN and staff.

3. Introductory Physics. (3 Hrs.) A continuation of Course 1 which is a prerequisite. See Course 4 below.

Second semester; lectures; section one, M. W., 8:00; Professor WAGGONER, M., quiz section; Th., 8:00, F., 8:00 or F., 9:00.

4. Introductory Physical Laboratory. (1 Hr.) A continuation of Course 2, which is prerequisite.

Second semester; various sections as announced in semester schedule; Assistant Professor STUHLMAN and staff.

6. General Physics. (4 Hrs.) Required of all candidates for engineering degrees, and recommended for all students in the College of Arts and Sciences who elect physics from the science group. Not open to students who have credit for Course 1. The derivation of the mathematical statements of the laws of physics and their application to the solution of engineering problems. Prerequisites: Mathematics 3 and 4. No student is permitted to take this course without its accompanying laboratory exercise, which is Course 2.

First semester; T. W. Th. F., 9:00; Professor WAGGONER and Assistant Professor STUHLMAN; 14 M.

8. General Physics. (4 Hrs.) A continuation of Course 6 which is a prerequisite. Not open to students who have credit for Courses 1 and 3. No student is permitted to take this course without its accompanying laboratory exercise which is Course 4.

Second semester; T. W. Th. F., 9:00; Professor WAGGONER and Assistant Professor STUHLMAN; 14 M.

55. Problems in Physics. (2 Hrs.) This course is a discussion of problems for students in engineering.

First semester; Th. F., 9:00; Assistant Professor STUHLMAN; 6 M.

56. Problems in Physics. (2 Hrs.) A continuation of Course 55.

Second semester; Th. F., 9:00 Assistant Professor STUHLMAN; 6 M.

10. Electrical Measurements. (4 Hrs.) This course is designed for, and required of the candidates for the degree of B.S.M.E., and B.S. Chem. E. It consists of the study of photometry, magnetic properties of materials, the theory, calibration, and use of various electrical instruments. Prerequisites: Physics 6, 2, 8, and 4 and integral calculus.

First semester; T. Th., 10:00; laboratory, W., 2:00-4:00; Professor WAGGONER; 14 M.

COURSES IN VOCATIONAL INDUSTRIAL EDUCATION AT THE SUMMER SESSION OF WEST VIRGINIA UNIVERSITY.

The following courses will be offered during the summer sessions: Vocational Guidance, Methods of Teaching in Trade and Industrial Schools and Classes, the Development, Organization, and Administration of Vocational Education, Carpentry, Cabinet Making, Forging, Foundry, Machine Tool Work, Sheet Metal Work, and Industrial Arts for the Grades.

EXTENSION COURSES OFFERED BY THE DEPARTMENT OF VOCATIONAL INDUSTRIAL EDUCATION.

Courses in English, Trade Drawing, Trade Mathematics, Trade Science, Methods of Teaching, and the Organization and Administration of Vocational Education will be offered in the teacher training centers—Charleston, Clarksburg, Fairmont, Grafton, Huntington, Morgantown, and Wheeling—by the staff of the extension department during the years of 1920-1921.

MINING EXTENSION COURSES.

Extension courses in mining are offered under the direction of the University at various mining centers throughout the state. The work of instruction in these courses is carried on conjointly by a University instructor and a local instructor, who may be the mine engineer or the superintendent or foreman of the coal company. The University instructor visits each center from two to four times a month and supplements the work of the local instructor by means of lectures, demonstrations, lantern slides and motion pictures. Special stress is laid upon the safety of the workmen.

For further information concerning the Summer School of Mining or the Extension Courses in Mining, apply to Professor A. C. Callen, head of the Department of Mining Engineering, Morgantown, W. Va.

SUMMER SCHOOL IN MINING.

The Short Course in Coal Mining offered by the Department of Mining Engineering gives an opportunity to operators, officials and employes of the mining companies to obtain instruction pertaining to their work. The subjects covered in the Short Course are: prevention of accidents, explosives, methods of working, timbering, mine gases, mine ventilation, hoisting, haulage, mine drainage, safety lamps, mine management, electricity in mines, and mine fires and explosions. In addition, courses for advanced students in mechanical drawing and mine surveying may be offered if a sufficient number apply.

Special attention is given to students desirous of preparing themselves for the teaching of mining classes under the Smith-Hughes Act.

Through the co-operation of the United States Bureau of Mines instruction in first aid and mine rescue work is given by the instructors of one of the Rescue Cars of the Bureau. The car is placed at Morgantown for two or three weeks of the Short Course for the express purpose of giving this training to the students.

At the close of the Short Course the Department of Mines of West Virginia will hold an examination for mine foremen and firebosses.

Tuition is free. It is believed that $50 to $60 should cover all necessary expenses for the six weeks, excluding traveling expenses.

The eighth annual session of the Short Course in Coal Mining will begin on Monday, June 14, and continue until Saturday, July 24, 1920. For further information write for circular giving full details.

SCHOOL OF GOOD ROADS.

The School of Good Roads was organized to meet the demand for instruction in highway construction and maintenance and to comply with the requirements of Section 17, Chapter 41 of the Acts of the Legislature of 1913. Since the repeal of this act it has been continued under the joint supervision of the University and the State Road Commission. It is open to all who are interested in good roads regardless of entrance requirements or previous experience.

The character of the school varies from year to year. The session for 1920 consisted of a three-day conference of the county road engineers and county officials followed by a nine-day school for highway inspectors.

THE COLLEGE OF AGRICULTURE

FACULTY AND STAFF.

FRANK BUTLER TROTTER, A.M., LL.D., *President of the University.*

JOHN LEE COULTER, A.M., PH.D., *Dean and Director of the Experiment Station.*

THOMAS CLARK ATKESON, PH.D., *Professor of Animal Husbandry. Emeritus.*

LEONARD MARION PEAIRS, PH.D., *Professor of Entomology.*

CHARLES HERMAN WINKLER, PH.D., *Professor of Vocational Agricultural Education and State Supervisor of Vocational Agriculture.*

NAHUM JAMES GIDDINGS, PH.D., *Professor of Plant Pathology.*

JACOB KINGSLEY SHAW, PHD., *Profesor of Horticulture.*

ERNEST LEE ANTHONY, B.S.AGR., M.S., *Professor of Dairy Husbandry.*

EDWARD ALEXANDER LIVESAY, M.S.AGR., *Professor of Animal Husbandry.*

RACHEL HARTSHORN COLWELL, A.M., *Associate Professor of Home Economics.*

CHARLES AUGUSTUS LUEDER, D.V.M., *Associate Professor of Veterinary Science.*

ANDREW JACKCON DADISMAN, B.S.AGR., M. S., *Associate Professor of Farm Economics.*

EDGAR LEWIS ANDREWS, B.S.AGR., *Associate Professor of Poultry Husbandry.*

HENRY ALBERT JONES, PH.D., *Associate Professor of Horticulture.*

ROBERT MUNDHENK SALTER, M.S., *Associate Professor of Agronomy.*

HARRY EDWARD KNOWLTON, B.S.AGR., *Associate Professor of Horticulture.*

ROLAND HARRISON PATCH., M.S., *Assistant Professor of Horticulture.*

ROSCOE ELMO STEPHENSON, M.S., *Assistant Professor of Agronomy.*

HARRY WYATT RICHEY, B.S.,AGR., *Assistant Professor of Horticulture.*

HARRY ORAM HENDERSON, M.S., *Assistant Professor of Dairy Husbandry.*

HARLEY LUCIUS CRANE, B.S.AGR., *Assistant Professor of Horticulture.*

HOWARD B. ALLEN, M.S., *Assistant Professor of Agricultural Education.*

ROSWELL PAGE BLEDSOE, M.S., *Assistant Professor of Agronomy.*

NINA CATHERINE REILLY, B.S.EDU., *Instructor in Home Economics.*

ERNEST ANGELO, B.S.AGR., *Instructor in Horticulture.*

PAUL CHARLES ROUZER, B.S.,AGR., *Instructor in Agricultural Education.*

CHARLES VINYARD WILSON, B.S.AGR., *Instructor in Animal Husbandry.*

[1]GLADYS GRIMSHAW GILL, B.S., *Instructor in Home Economics.*

CLARA ROWENA SCHMIDT, B.S.EDU., *Instructor in Home Economics.*

[2]GEORGE LEE SCHUSTER. M.S., *Instructor in Agronomy.*

MARIE DE VERE, B.S., *Instructor in Home Economics.*

FRANCES MARGARET YOUNG, B.S., *Instructor in Home Economics.*

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[1] Resigned.
[2] In co-operation with U. S. Department of Agriculture.

BERT HOLMES HITE, M.S., *Chemist.*

WILLIAM EARL RUMSEY, B.S.AGR., *State Entomologist.*

HORACE ATWOOD, M.S.AGR., *Poultryman.*

ISAAC SCOTT COOK, JR., B.S.,AGR., *Research Agronomist.*

[2]THEODORE CLINTON McILVAINE, M.S., *Assistant Agronomist in Charge of Huntington Sub-Station.*

LUTHER FRANCIS SUTTON, B.S., B.S.AGR., *Assistant Horticulturist and Superintendent of Reymann Memorial Experimental Farm.*

[2]ANTHONY BERG, B.S., *Assistant Plant Pathologist.*

CHARLES EDWARD WEAKLEY, JR., *Assistant Chemist.*

FRANK BATSON KUNST, A.B., *Assistant Chemist.*

[2]ROSS HOLMAN TUCKWILLER, B.S.AGR., *Assistant in Beef Cattle Investigations.*

BENJAMIN B. KAPLAN, A.B., *Assistant Chemist.*

THOMAS JOSEPH COCHRANE, B.S., *Assistant Chemist.*

HENRY EDWIN SHRIVER, B.S., *Assistant Chemist.*

JOHN CHARLES JOHNSTON, *Chief Clerk of Experiment Station.*

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[2]NAT TERRY FRAME, B.A., *Director of Agricultural Extension, in Charge Rural Organization.*

[2]HU SWISHER VANDERVORT, B.S.AGR., *Assistant Director, in Charge Agronomy, Horticulture and Dairy Extension.*

DAVID ROLLIN DODD, B.S.AGR., *Extension Specialist in Agronomy.*

HUGH WILLARD PRETTYMAN, B.S.,AGR., *Extension Specialist in Horticulture.*

DEE CRANE, *Extension Specialist in Potatoes.*

[2]ENOS JOHNSON PERRY, B.S.AGR., *Extension Specialist in Dairying.*

[2]BELTON BONNER EZELL, B.S., *Assistant Director, in Charge Livestock Extension.*

[1] Resigned.
[2] In co-operation with U. S. Department of Agriculture.

BENJAMIN FRANKLIN CREECH, B.S.AGR., *Extension Specialist in Beef, Cattle and Hogs.*

RALPH LEON MASON, *Extension Specialist in Poultry.*

[2]EDWARD LEE SHAW, B.S.,AGR., *Extension Specialist in Sheep.*

[2]CHARLES HENRY HARTLEY, B.S.,AGR., *Assistant Director, in Charge Extension Schools, Institutes, Exhibits, etc.*

[2]WILLIAM HENRY KENDRICK, B.S., *Assistant Director, in Charge Boys' Club Work.*

[2]MARION HEPWORTH. B.S., *Assistant Director, in Charge Home Economics Extension.*

[2]KATHRYN ALGER, B.S., *in Charge Girls' Club Work.*

[2]SADIE RAY GUSEMAN, B.S., *Extension Specialist in Girls' Club Work.*

CHARLES ELLSWORTH STOCKDALE, B.S.AGR., *Agricultural Editor.*

ROSS BRADSHAW JOHNSTON, *in Charge University News Service.*

JEANNETTA WEIL, *Chief Clerk, in Charge Clerks and Stenographers.*

FACULTY COMMITTEES.

AGRICULTURAL STUDENTS' COHRSES AND HOURS: Dean COULTER, Professors WINKLER, PEAIRS, and ANTHONY.

HOME ECONOMICS STUDENTS' COURSES AND HOURS: Dean COULTER, Associate Professor COLWELL, and Miss --------

FARM OPERATIONS: Associate Professor DADISMAN, Professor ANTHONY, Associate Professor SALTER, Assistant Professor KNOWLTON and Mr. WILSON.

[2] In cooperation with United States Department of Agriculture.

ORGANIZATION.

All the agricultural and home economics work of the University is organized under the College of Agriculture. For the purposes of administration the college is divided into four branches, viz:

I. Investigation and research as carried on at Morgantown and throughout the State by the staff of the West Virginia Agricultural Experiment Station.

II. Resident instruction for students pursuing agricultural studies at Morgantown, in the classrooms and laboratories, and on the college farms as usually organized for college work.

III. Resident instruction in home economics.

IV. Extension work for all citizens of the State who desire instruction in agriculture and home economics while living on the farm. This work is given by the Division of Agricultural Extension.

These primary divisions of the work of the College of Agriculture should be clearly distinguished. Some of its staff are engaged in college instruction, experiment station research and extension teaching; few of them give their entire time to instruction; a few give their entire time to experiment station work and several are engaged entirely in extension work.

I. THE WEST VIRGINIA AGRICULTURAL EXPERIMENT STATION.

The Experiment Station is a distinct and separate department of the University, and was established by the Board of Regents in 1887, by authority of an act of Congress known as the Hatch Act, which was passed on the 2nd day of March of that year. Further support was given by an act of Congress known as the Adams Act, approved June 30, 1906. From the appropriations made by Congress under these acts the Station derives an annual income of thirty thousand dollars. Section 2 of the Hatch Act fully states the object and purpose of the Experiment Station as follows:

"That it shall be the object and duty of said experiment station to conduct original researches or verify experiments on the physiology of plants and animals; the diseases to which they are severally subject with the remedies for the same; the chemical composition of useful plants at their different stages of growth; the comparative advantages of rotative cropping as pursued under varying series of crops; the capacity of new plants or trees for acclimation; the analysis of soils and water; the chemical composition of manures, natural or artificial, with experiments designed to test their comparative effects on crops of different kinds; the adaption and value of grasses and forage

plants; the composition and digestibility of the different kinds of foods for domestic animals; the scientific and economic questions involved in the production of butter and cheese; and such other researches and experiments bearing directly on the agricultural industry of the United States as may in each case be deemed advisable, having due regard to the varying conditions and needs of the respective states and territories."

The State Legislature has made appropriations for the same purposes amounting to forty-five thousand dollars a year for the current fiscal year. It has also appropriated fifteen thousand dollars for two years for farm buildings and improvements in connection with the farms presented to the University for the College of Agriculture by Monongalia County, and seven thousand five hundred dollars a year for two years for buildings on the Reymann Memorial farms operated by the Experiment Station.

Bulletins and annual reports setting forth results of experiments and investigations conducted at the station are published for gratuitous distribution, and will be mailed to any citizen of the state applying for them.

The Experiment Station is engaged solely in research and investigation, the results of which, with those of similar institutions, form the basis of the teaching of the College of Agriculture including the work of the Extension Division.

For further information concerning the work of the Experiment Station write the director.

II. INSTRUCTION IN AGRICULTURE.

AIM AND SCOPE.

The training given by the College of Agriculture is designed to fit its students for farm life, or for work as teachers, field workers, or investigators of agricultural subjects. A large part of the course consists of technical work in the various branches of agriculture. The aim in these courses is to make plain the principles underlying agricultural science, and to give as much practice work as facilities will permit, so that the student will receive a training fitting him for efficient work. The curriculum is planned to give the student a general knowledge of all phases of agriculture, but at the same time to afford him opportunity to specialize in the subjects in which he is particularly interested. A thorough training in the general sciences underlying scientific agriculture is given.

In addition to the technical work in agriculture and general science, courses in English, sociology, history and economics are required in the College of Arts and Sciences, as the college hopes to

train its students to be not only progressive farmers or educators but good citizens and leaders in rural life.

Opportunity is also offered those who wish to prepare for the teaching of agriculture in vocational agricultural schools of secondary grade, in high schools or normal schools or for work in rural school supervision, to take the regular courses in the department of education and agricultural education, thus securing the best possible training for such work.

EQUIPMENT.

In 1915 an appropriation was made by the State Legislature for the construction of a modern agricultural hall. This appropriation was increased in 1917 to $200,000 and the new building, Oglebay Hall, was completed and occupied February 15, 1919. This building which is 188 feet long and four stories high contains on the basement floor the creamery and dairy laboratories, a four-chambered cold storage plant and ice machine, the station mailing room and laboratories for horticulture, animal husbandry and agronomy. The first floor is devoted to offices and reading rooms, agronomy and plant physiology laboratories, and the food and textile laboratories of the Home Economics Department. The second floor houses the Extension Division and provides six recitation rooms and three sewing laboratories. On the upper floor are the departments of botany, plant pathology, entomology, farm economics, poultry husbandry, veterinary science and agricultural education.

The College of Agriculture now has 700 acres of land lying close to the university buildings. This land has been definitely organized into a series of five farms operated respectively by the animal husbandry, dairy husbandry, poultry husbandry, agronomy and horticultural departments.

There have recently been erected a barn and judging pavilion on the lower campus, a horse barn and a beef cattle barn on the animal husbandry farm. The barn on the agronomy farm has been remodeled and there is now under construction on the poultry farm a three-story building for feed storage, incubation and brooding, together with several other small colony and brooding houses.

The greenhouse establishment has recently been greatly enlarged and made modern in all respects. The dairy buildings have been greatly improved.

With Oglebay Hall, the old experiment station building, the old horticultural hall, the new barns and live stock hall, and the new greenhouses, hot beds and cold frames, equipment is available for a thorough and complete training in the science and art of farming.

Laboratories are provided for all phases of dairy husbandry, animal husbandry, poultry, veterinary science, agronomy, horticulture, entomology, plant pathology, farm management and agricultural education, and the greenhouses, farms and barns afford facilities for practical work in which the principles taught in the classroom and laboratory may be tested and put into practice.

REYMANN MEMORIAL FARM.

Through the gift of Anton Reymann and Paul O. Reymann of Wheeling, West Virginia, executors of the estate of Lawrence A. Reymann, deceased, the University came into possession on March 1st, 1917, of the Reymann Memorial Experiment Farm, including 930 acres of land on the Capon River in Hardy County, and a herd of more than 100 head of pure bred Ayshire cattle. The farm is given for the use of the College of Agriculture for experimental work in all phases of agricultural science.

There is located on the farm a fully equipped cheese factory which is turning out a fancy grade of American full cream cheese. The products of this factory won a silver medal at the National Dairy Show at Columbus, Ohio, and received a score exceeded only by cheese from the famous factories of Wisconsin. The exceptional quality of the cheese from this factory has created a demand for its products far in excess of its present output, and an attempt is being made to promote the industry in this and other regions of the state.

Experimental orchards were planted on the farm in the spring of 1918 and definite investigations are under way in the following lines: plant pathology, horticulture, animal husbandry, agronomy, dairy husbandry and veterinary science. The new buildings and improvements provided by the Legislature in 1919 will greatly facilitate this work.

ENTRANCE REQUIREMENTS.

For admission to the College of Agriculture the student must have credit for fifteen units of secondary school work, i. e., the work of a standard four-year high school.[1]

A. The following groups are required:
   (1) Four units of English.
   (2) Three units in one other subject.
   (3) Two units in a third subject.
   (4) Two units in a fourth subject.
   (5) Four units elective.

B. Work in the following subjects not to exceed the number of units placed after each subject will be accepted:

English	4 units
Foreign languages[2]	
Latin	4 units
Greek	3 units
French	3 units
German	3 units
Spanish	2 units
Italian	2 units
Mathematics	
Algebra	1½ units
Plane geometry	1 unit
Solid geometry	½ unit
Trigonometry	½ unit
History and economics	
History	3 units
Civics	1 unit
Elementary economics and sociology	1 unit
Education	2 units
Drawing	
Free-hand drawing	1 unit
Mechanical drawing	1 unit
Science[3]	
Physics	1 unit
Chemistry	1 unit
Biology	1 unit
Botany	1 unit
Geology	1 unit
Zoology	1 unit
General science	1 unit
Physical geography	1 unit
Physiology	1 unit
Hygiene and sanitation	1 unit
Vocational subjects (not to exceed four units in all.)	
Agriculture	3 units
Household arts	3 units
Manual training	3 units
Bookkeeping or bookkeeping and commercial arithmetic	2 units
Shorthand and typewriting	2 units
Commercial geography	½ unit
Commercial law	½ unit
Music:—violin, organ or piano	2 units

[1] These admission requirements are effective from May 1, 1919, but graduates from high schools in 1919, 1920, or 1921 may if they prefer enter under the requirements as stated in the University catalogue for 1918-19.

[2] Not less than two units of one foreign language will be accepted for entrance.

[3] A group of two units in science may be made by combining one unit each ot physics and chemistry or one unit each of any two of the following: biology, botany, zoology, geology. A group of three units in science may be made by combining one unit each of any three of the following: physics, chemistry, biology, botany, zoology, geology.

FARM OPERATIONS.

The faculty strongly recommends that students who have not had practical farm experience spend at least one year on a first-class general farm before pursuing the course. It is impossible for students who have not had farm experience to secure the fullest benefit of the course.

On entering the college, each student will be examined as to his ability to perform the various operations necessary to carry on farm work and as to his knowledge of farming. A failure to pass this examination will not exclude him from college; another opportunity will be provided at the beginning of the second year to pass off the requirement. If the student then fails he will be required to remain at the college farm during the summer vacation between his second and third year, or to work for the same period on some farm approved by the committee in charge. Weekly reports of the farm operations will be required and he will receive his final examination of the subject at the beginning of the junior year. In case of continued failure, the student's degree will be withheld until he shall satisfy the requirements herein described. This work will be reported on as a preparatory study, and will have no credit value as a part of the required work of the course.

The examinations will test the student's knowledge of everyday farm operations such as those indicated in the following list:

(1) Harnessing a team; (2) Naming parts of harness; (3) Hitching team to farm implements; (4) Plowing; (5) Driving a team; (6) Feeding animals; (7) Distinguishing common breeds of farm animals; (8) Handling farm animals; (9) Milking cows; (10) Distinguishing common breeds of poultry; (11) Knowledge of yields of a few farm crops; (12) Knowledge of common practices in planting the ordinary farm crops; (13) Identifying a few common varieties of apples; (14) Familiarity with common vegetables of the farm garden, and (15) Familiarity with common farm machinery.

DEGREES.

REQUIREMENTS FOR THE DEGREE OF BACHELOR OF SCIENCE IN AGRICULTURE.

Credits Required.

The degree of Bachelor of Science in Agriculture will be conferred upou any student who satisfies the entrance requirements, and offers one hundred and forty-four semester hours credits for college courses.

The "semester hour" is the standard for computing the amount of work required for graduation. The "hour" represents the amount of work done in one semester (eighteen weeks) and in one recitation hour with two preparation hours a week, or in three hours' practice or laboratory work requiring no outside preparation. No student is permitted to register for less than fifteen hours or more than twenty hours of work in any one semester without special permission.

Classification of Students.

To be classified as a conditioned freshman in the College of Agriculture a student must have a credit for at least thirteen units of entrance requirements; to be classified as a regular freshmen he must have fulfilled all entrance requirements. To be classified as a sophomore he must have credit for 26 hours of college work; as a junior, 64 hours; and as a senior, 100 hours.

Summer Courses.

It will be noted that many of the courses described in the following pages are also given in the Summer School. In many cases these courses may be pursued to better advantage during the summer. Students who are admitted with advanced standing or students who for any reason may be compelled to do so, may complete the prescribed course for the degree of Bachelor of Science in Agriculture by taking full work for two summer sessions(12 hours each) and three academic years, but only students of exceptional ability or mature age should undertake such a curriculum, which should be arranged with the dean in advance.

Admisssion With Advanced Standing.

Students from other institutions will be given credit for work already done in accordance with the general rules for advanced standing. (See page 31), but at least one year of resident work will be required for the baccalaureate degree in agriculture.

Required and Elective Subjects.

Of the one hundred and forty-four hours required for the degree, eighty-eight are prescribed for all students, as indicated in the curriculum below. Students who are not required to take military science must substitute elective credits. The remaining fifty-six hours' credit must be elected from such courses as may be approved by the class officer. Of these not less than fifteen nor more than thirty-one hours must be elected from the College of Arts and Sciences or from other colleges. The remainder must be elected from the College of Agriculture. (See pages 206 to 209.)

Class Officer.

The dean of the College of Agriculture will act as class officer for all freshmen and sophomore students in the College of Agriculture. The head of the department in which a student elects to take his major will be his class officer for the junior and senior years.

Graduate Work.

Graduates of the College of Agriculture, or from institutions with equivalent work, may be admitted to the University as candidates for the degree of Master of Science, M.S. (Agr.), under the conditions prescribed on page 39.

Special Students.

Attention is directed to the fact that persons of maturity who have had approximately two years of high school work may enter the College of Agriculture as special students under the provisions as set forth on page 31. These students will be admitted to all elementary classes in Agriculture and will receive a thorough training in the practical phases of scientific agriculture.

CURRICULUM LEADING TO THE DEGREE OF BACHELOR OF SCIENCE IN AGRICULTURE.

Freshman Year—First Semester.

Agricultural botany	(Botany 1)	8:00 or 9:00, T.Th., 2:00, Lab.	4	
Animal husbandry	(A. Husb. 40)	8:00 or 9:00, M.W.F., 2:00, Lab.	4	
Inorganic chemistry	(Chem. 1)	9:00 or 11:00, T.Th.S., 2:00, Lab.	4	
Rhetoric and comp.	(English 1)	10:00 or 11:00, M.W.F.	3	
English literature	(English 26)	10:00 or 11:00, T.Th.	2	
Military science (1)		12:00, M.T.Th.F.	1	18

Freshman Year—Second Semester.

Agricultural botany	(Botany 2)	8:00 or 9:00, T.Th., 2:00, Lab.	4	
Vegetable gardening	(Hort. 3)	8:00 or 9:00, T.Th., 2:00, Lab.	3	
Inorganic chemistry	(Chem. 2)	9:00 or 11:00, T.Th.,S., 2:00, Lab.	4	
Introduction to agriculture		10:00 M.	1	
Rhetoric and comp.	(English 2)	10:00 or 11:00, M.W.F.	3	
English literature	(English 27)	10:00 or 11:00, T.Th.	2	
Military science (2)		12:00, M.T.Th.F.	1	18

Sophomore Year—First Semester.

Animal biology	(Zoology 1)	8:00 or 9:00, T.Th., 2:00	4	
Introductory physics	(Physics 1)	8:00, M.W.F.	3	
Farm dairying	(Dairy Husb. 21)	9:00, T.Th., or 10:00, M.F., 2:00	3	
Physics laboratory	(Physics 2)	10:00, T. or Th.	1	
Elementary pomology	(Hort. 2)	9:00, T.Th., or 10:00, M.F., 2:00,	3	
Soil fertility	(Agronomy 21)	11:00, M.F., 2:00	4	
Military science (3)		12:00, M.T.Th.F.	1	19

Sophomore Year—Second Semester.

Introductory physics	(Physics 3)	8:00, M.W.F.	3	
Physics laboratory	(Physics 4)	10:00, T. or Th.	1	
Farm poultry	(Poultry Husb. 1)	9:00, M.W.F., 2:00	4	
Farm crops	(Agronomy 2)	10:00, M.F., 9:00, S.	3	
General entomology	(Ento. 1)	11:00,M.W.F., 2:00	4	
Military science (4)		12:00, M.T.Th.F.	3	19
Elective				

Required Work, Junior and Senior Years—First Semester.

Organic chemistry	(Chem. 16)	9:00, T.Th. 2:00, F.	3	
Principles of econ.	(Econ. 15)	11:00, M.W.F.	3	
[1]General seminar	(Agr. 2)	4:00, M. alternate weeks	½	6½

Second Semester.

Rural economics	(Farm Ec. 2)	8:00, M.W.F.	3	
Farm economics (1)		9:00, M.W.F.	3	
General bacteriology,	(Botany 10)	11:00, T.Th., 2:00, F.	3	
[1]General seminar	(Agr. 2)		½	9½

[1]Taken throughout Junior and Senior years. Total credit, 2 hours.

Only class periods or recitation and lecture hours are shown; laboratory periods to be arranged.

MAJOR SUBJECTS.

Upon registering at the beginning of the junior year each student will indicate to the dean the department in which he wishes to do major work, and will be referred to the head of that department as his class officer (See page 16.) The curricula given below are suggestive except as regards required subjects, and may be varied by the class officer to meet the needs of individual students, but indicate the subjects which are usually advised for students desiring to take major work in the respective departments.

State Teachers' Certificate.

Students taking courses given by the Department of Education, to the amount of twenty hours, approved by that department, will be eligible for state teachers' certificates. (For details see page 24.) Students taking ten hours will be eligible as teachers of vocational agriculture, but twenty hours is recommended.

Agricultural Education.

Students may choose as a major either general agricultural education or vocational agricultural education.

Junior Year—First Semester.	Hrs.		Junior Year—Second Semester.	Hrs.	
Sociology 1	3		*Botany 10	3	
Education 4	3		Farm economics 1	3	
*Chemistry 16	3		Education 5	3	
Elective	9	18	Agricultural education 31	2	
			Elective	7	18

Senior Year—First Semester.			Senior Year—Second Semester.		
*Economics 15	3		Farm economics 2	3	
Education 17	3		Agricultural ed. 16 or 36	3	
Education 1, 6, 13 or 14	3		Education 2, 7, or 15	3	
Elective	9	18	Elective	9	18

Agronomy.

Students may choose as a major either crops or soils.

Junior Year—First Semester.			Junior Year—Second Semester.		
*Economics 15	3		*Botany 10	3	
Agronomy (elective)	3		Farm economics 1	3	
*Chemistry 16	3		Agronomy (elective)	5	
Botany 22 or Geology 2	3		Elective	7	18
Elective	6	18			

Senior Year—First Semester.			Senior Year—Second Semester.		
Agronomy (elective)	3		*Farm economics 2	3	
Elective	15	18	Agronomy (elective)	3	
			Elective	12	18

* Required courses (see page 205)

Animal Husbandry.

Junior Year—First Semester.	Hrs.		Junior Year—Second Semester.	Hrs.	
*Economics 15	3		Zoology 2	4	
*Chemistry 16	3		*Farm economics 1	3	
Animal husbandry 42	3		Animal husbandry 45	2	
Animal husbandry 43	2		Veterinary science 1	3	
Animal husbandry 44	2		Elective	6	18
Elective	5	18			

Senior Year—First Semester.			Senior Year—Second Semester.		
Zoology 6	3		*Botany 10	3	
Animal husbandry 47	2		*Farm economics 2	3	
Animal husbandry 50	1		Animal husbandry 46	3	
Elective	12	18	Animal husbandry 50	1	
			Veterinary science 2 and 5	5	
			Elective	3	18

Dairy Husbandry.

Junior Year—First Semester.			Junior Year—Second Semester.		
*Economics 15	3		Dairy husbandry 26	4	
*Chemistry 16	3		Farm economics 1	3	
Animal husbandry 42	3		Animal husbandry 45	2	
Dairy husbandry 24	3		*Botany 10	3	
Elective	6	18	Agronomy 10	3	
			Elective	3	18

Senior Year—First Semester.			Senior Year—Second Semester.		
Dairy husbandry 27	3		*Farm economics 2	3	
Agronomy 15	3		Animal husbandry 46	3	
Elective	12	18	Veterinary science 1	3	
			Dairy husbandry 23	4	
			Elective	5	18

Entomology.

Junior Year—First Semester.			Junior Year—Second Semester.		
*Economics 15	3		*Botany 10	3	
Entomology 3	3		*Farm economics 1	3	
Botany 12	3		Entomology	2	
Horticulture 4	3		Zoology 2	4	
*Chemistry 16	3		Botany 13	3	
Elective	3	18	Elective	3	18

Senior Year—First Semester.			Senior Year—Second Semester.		
Entomology 4	3		*Farm economics 2	3	
Zoology 9	3		Entomology 4 or 5	3	
Elective	12	18	Entomology 6	1	
			Zoology 10	3	
			Elective	8	18

* Required courses (see page 206)

Farm Economics.

Junior Year—First Semester.	Hrs.		Junior Year—Second Semester.	Hrs.	
*Economics 15	3		*Botany 10	3	
*Chemistry 16	3		Farm economics 8	2	
Economics 5	3		*Farm economics 1	3	
Elective	9	18	Farm Economics 4	3	
			Elective	7	18

Senior Year—First Semester.			Senior Year—Second Semester.		
Sociology 10	3		Farm economics 2	3	
Economics 14	2		Farm economics 3	2	
Economics 7	3		Farm economics 7	2	
Elective	10	18	Farm economics 6	2	
			Elective	9	18

Horticulture—Pomology.

Junior Year—First Semester.			Junior Year—Second Semester.		
*Economics 15	3		*Botany 10	3	
*Chemistry 16	3		*Farm economics 1	3	
Horticulture 4	3		Entomology 9	2	
Botany 22	5		Horticulture 5	3	
Elective	4	18	Horticulture 7	3	
			Botany 24	5	19

Senior Year—First Semester.			Senior Year—Second Semester.		
Horticulture 21	3		Farm economics 2	3	
Horticulture 13	3		Horticulture 12	2	
Horticulture 25	2		Horticulture 11	1	
Elective	10	18	Horticulture 14	3	
			Elective	9	18

Horticulture—Vegetable Gardening and Floriculture.

Junior Year—First Semester.			Junior Year—Second Semester.		
Economics 15	3		*Botany 10	3	
*Chemistry 16	3		*Farm economics 1	3	
Horticulture 22	3		Entomology 9	2	
Horticulture 15	3		Horticulture 24	3	
Botany 22	5		Horticulture 8	4	
Elective	3	20	Botany 24	5	20

Senior Year—First Semester.			Senior Year—Second Semester.		
Horticulture 25	2		Farm economics 2	3	
Horticulture 6	2		Horticulture 14	3	
Horticulture 13	3		Horticulture 11	1	
Elective	11	18	Horticulture 12	2	
			Horticulture 23	3	
			Elective	6	18

* Required courses (see page 205)

Poultry Husbandry.

Junior Year—First Semester.	Hrs.		Junior Year—Second Semester.	Hrs.	
*Economics 15	3		*Botany 10	3	
*Chemistry 16	3		*Farm economics 1	3	
Poultry husbandry 5	3		Poultry husbandry 6	2	
Animal husbandry 42	3		Veterinary science 1	3	
Elective	6	18	Animal husbandry 45	2	
			Elective	5	18

Senior Year—First Semester.			Senior Year—Second Semester.		
Poultry husbandry 7	3		*Farm economics 2	3	
Zoology 10	3		Poultry husbandry 8	2	
Elective	12	18	Farm economics 7	2	
			Animal husbandry 46	3	
			Elective	8	18

THESIS.

Every candidate for the degree of Bachelor of Science in Agriculture will be required to prepare a thesis on a subject in some special branch of agriculture or in some other department of science applied to agriculture, unless excused by his class officer. The thesis must be based upon the student's personal work. The subject of the thesis must be presented in writing and approved by the class officer not later than November first of the academic year in which the student is a candidate for a degree. The completed thesis must be presented to the class officer for his approval not later than thirty days prior to Commencement day. The thesis must be typewritten and bound according to official specifications for theses, must be signed by the instructor in charge and the class officer and deposited in the University Library before graduation.

* Required courses (see page 205)

REQUIREMENTS FOR CANDIDATES FOR B.S. AGR. DEGREE WHO ALREADY HOLD THE DEGREE OF A.B. OR B.S.

Students who have received the degree of Bachelor of Arts or Bachelor of Science from West Virginia University or any institution of similar standing, may receive the degree of Bachelor of Science in Agriculture upon the following conditions:

(1) The completion of Physics 1, 2, 3, 4, Chemistry 1, 2, Botany 1, 2, and Zoology 1, or equivalent courses.

(2) The completion of the thirty-seven hours of courses in the College of Agriculture required in the curriculum on page 17.

(3) The completion of at least twenty-two hours of elective courses in the College of Agriculture.

Attention is called to the fact that fifteen hours from the following courses may be credited toward the A.B. degree in the College of Arts and Sciences. (See page 69).

Subject.	Hours.
Agricultural education 31 (History of agricultural education)	2
Agronomy 2 (Farm crops)	4
Agronomy 21 (Soil fertility)	4
Animal husbandry 40 (Introductory animal husbandry)	4
Dairy husbandry 21 (Farm dairying)	3
Animal husbandry 42 (Feeding farm animals)	3
Animal husbandry 43 (Breeding farm animals)	2
Animal husbandry 45 (Animal nutrition)	2
Animal husbandry 46 (Genetics)	3
Farm Economics 1 (Farm management)	3
Horticulture 2 (Elementary pomology)	3
Horticulture 3 (Elementary vegetable gardening)	3
Horticulture 13 (Plant breeding)	3
Poultry husbandry 1 (Farm poultry)	3

The following courses are regular electives both in the College of Agriculture and in the College of Arts and Sciences:

Subject.	Hours.
Entomology, all courses	18-24
Farm economics 2 (Rural economics)	3
Agricultural education 16 (High school agriculture)	3
Agricultural education 35 (Methods in Agricultural extension)	3
Agricultural journalism	2

Students who desire the advantage of the broader training secured by first taking a degree in the College of Arts and Sciences, and who then expect to take the degree of Bachelor of Science in Agriculture, may so arrange their curriculum as to enable them to take sufficient of the elective courses above mentioned to secure the degree in agriculture in one year or in one year and a summer school session after receiving the first degree.

COURSES OF INSTRUCTION.

In the following announcements the number of hours in parenthesis after the name of the course indicates the number of credit hours. Whenever possible, the semester during which the course is given, the hour, the name of the instructor, and the class room, are stated at the end of the announcement of each course. For convenience it is customary to designate the courses of study by the name of the department and the number of the particular course. Thus the course in farm crops is known as "Agronomy 2;" the course in rural economics is known as "Farm economics 2;" etc. The abbreviations used are W., Woodburn Hall; S., Science Hall; M., Martin Hall; M. H., Mechanical Hall; A., Agricultural Building; L., Library; E., Experiment Station Building; O. H., Oglebay Hall.

Only the technical courses offered primarily for the students in agriculture are described here. For detailed description of the other courses listed as required or elective in the agricultural curriculum, see the announcement of courses in the College of Arts and Sciences or other colleges.

Courses marked by an asterisk (*) may be offered for credit in the College of Arts and Sciences. Courses marked by a double asterisk are regular electives in the college of Arts and Sciences.

AGRICULTURE.

Dean COULTER.

1. **Introduction to Agriculture.** (1 Hr.) Required of all freshmen. Lectures by the dean, the university librarian, and members of the faculty, designed to indicate to new students the field of agricultural education, helpful methods of study, the use of the library, etc.

Second semester; M. 10:00.

2. **General Seminar.** (One-half hour each semester.) Required of juniors and seniors in agriculture. A lecture course covering the general problems in agriculture and their application to the community; the progress of agricultural science; present day problems in extension work, and agricultural training.

Alternate Mondays 4:00 p. m. In charge of Committee on Students Courses and Hours.

AGRICULTURAL JOURNALISM.

12. **Agricultural Journalism. (2 Hrs.) Elective. Instruction and practice in writing articles for farm periodicals, in editing, proofreading, illustrating, and in general preparation for publication; bulletin writing; farm advertising; other forms of special farm writing. Prerequisite: English 1 and 2 or consent of instructor.

Second semester; M. F., 4:00, MR. STOCKDALE.

AGRICULTURAL EDUCATION.

Professor WINKLER, Assistant Professor ALLEN and MR. ROUZER.

*31. **History of Agricultural Education.** (2 Hrs.) Elective. The purpose of this course is to give a better understanding and appreciation of present day tendencies in agricultural education. The origin and development of the movement for agricultural education in Europe and the United States will be considered. The effect of this movement upon education as a whole will be noted.

Second semester; T. Th., 10:00.

16. **High School Agriculture. (3 Hrs.) Required instead of Education 10 of seniors who desire a State Teacher's Certificate. A course designed for persons who expect to teach agriculture in the high school. The organization of courses in secondary agriculture with reference to classroom study and laboratory and field studies; preparation and discussion of lesson plans; methods of teaching; observation and practice teaching.

Second semester; T. Th., 9:00, T., 2:00; or hours to be arranged.

35. **Methods in Agricultural Extension. (2 Hrs.) A consideration of the principles of extension teaching and the best types of organization for extension work. Observation and practice in extension methods as applied in farm demonstration work, agricultural clubs, and other extension activities. Discussion of the relation of the extension division, the farm bureau, and the extension worker to other institutions and agents engaged in the improvement of country life.

Second semester; T. Th., 11:00;. Staff, assisted by specialists from the Extension Division.

36. **Vocational Agricultural Education.** (3 Hrs.) Elective for seniors. A course for students qualifying for special teachers, directors and supervisors of vocational agricultural education in the secondary school, as provided for under the Smith-Hughes Act, aiming to indicate the methods and organization of schools. Lectures, assigned reading, and discussion with provision for observation and practice teaching, during their senior year.

Second semester; T. Th.; 9:00, and a third hour to be arranged.

34. **Special Problems.** (2 to 5 Hrs.) Elective. Open to advanced undergraduate and graduate students. Studies in present day problems in agricultural education.

First and second semesters. Hours to be arranged. Professor WINKLER.

AGRONOMY.

Associate Professor SALTER.
Assistant Professor STEPHENSON, MR. COOK, and MR. SCHUSTER.

Crops.

2. **Farm Crops.** (4 Hrs.) Required of sophomores. Lectures and recitations on cereals, forage crops and miscellaneous crops; history, production, seeding, cultivation and marketing; time and methods of planting and preparation of soil. Laboratory fee, $1.00.

econd semester; M. W. F., 9:00, M. T. or F., 2:00; Mr. SCHUSTER.

3. **Cereals.** (3 Hrs.) Elective. Advanced study of the culture, selecting, testing, storing and marketing of all important grains. Review of experiment station literature. Laboratory study of market grades according to Government standards and variety studies. Prerequisite: Agronomy 2 and 21.

First semester; T. Th., 9:00; W. 2:00; Mr. SCHUSTER.

10. **Forage Crops.** (3 Hrs.) Elective. This course is a continuation of the work given on forage crops in Course 2. A thorough study is made of all the important grasses and clovers that can be grown for meadow and pasture purposes. Lectures and recitations. Prerequisites: Agronomy 2 and 21.

Second semester; T. Th., 8:00; W. 2:00, MR. SCHUSTER.

15. **Field Crop Improvement.** (3 Hrs.) A study of the principles of plant breeding, methods of improving field crops by selection and hybrization and a review of the experimental work of other stations. Prerequisites: Agronomy 2, 3, and 10.

First semester; T. Th., 11:00; W. 2:00.

8. **Field Experimentation.** (3 Hrs.) Experiment Station methods of investigation, laying out plots, maintenance of fertility and uniformity; planting and harvesting; keeping records, and interpretation of results. Prerequisite: Agronomy 15 and 21.

eScond semester; T. Th., 11:00; W. 2:00; Associate Professor SALTER.

12. **Research in Farm Crops.** (Credit in proportion to work done.) For advanced undergraduate and graduate students. Prerequisite: permission of class officer.

First or second semester and summer; hours to be arranged.

9. **Thesis.** (1 or 2 Hrs.) Students who intend to do thesis work in agronomy must select their problems before the close of their junior year so that field work can be arranged.

First and second semester and summer; hours to be arranged.

1. **Plant Industry Seminar.** (1 Hr.) Required of seniors and graduate students in agronomy and open to juniors; a joint seminar of the departments of agronomy and horticulture.

First and second semester; alternate Mondays, 4:00; Agronomy staff.

Soils.

21. **Soil Fertility—The Properties of Soils.** (4 Hrs.) Required of sophomores. Lectures on the physical, chemical and biological properties of soils with reference to their crop-producing power. Prerequisite: Chemistry 2. Laboratory fee, $5.00; refund $2.50, less breakage.

First semester; M. F., 11:00; M. F., 2:00 or T. Th., 2:00; Associate Professor SALTER.

22. **Soil Fertility—Soil Management.** (3 Hrs.) Elective. Lectures on soil management including fertilizer practice, liming, farm manures, crop rotations, green manures and cover crops, etc. Laboratory work will consist of chemical, physical and biological determinations on soil from the student's home farm. Prerequisite: Agronomy 21. Laboratory fee, $5.00; refund of $2.50, less breakage.

Second semester; T. Th., 9:00; F., 2:00; Associate Professor SALTER and Assistant Professor STEPHENSON.

23. **Soil Chemistry.** (3 Hrs.) Elective. Lectures and laboratory work on soil chemistry. The laboratory work will include a complete inorganic analysis of a soil for all the elements contained in it. Prerequisite: Agronomy 21. Laboratory fee, $2.50.

Second semester; hours to be arranged; Associate Professor SALTER.

24. **Soil Bacteriology.** (3 Hrs.) Elective. Lecture and laboratory work on bacteria in soils and the measurement of their activity. Prerequisite: Agronomy 21, 22 and 23. Laboratory fee ,$2.50.

Second semester; hours to be arranged; Assistant Professor STEPHENSON.

25. **Soil Physics.** (3 Hrs.) Elective. Lectures and laboratory work on the relation between the physical properties of soils and their productivity. A mechanical analysis of a soil will be made by means of the centrifuge. Prerequisite: Agronomy 21. Laboratory fee, $2.50.

First semester; hours to be arranged; Associate Professor SALTER.

26. Advanced Soil Fertility. (2 Hrs.) Elective. Lectures. A review of investigational work which has been and is now being conducted on some of the more important soil problems. Prerequisite: Agronomy 21 and 22.

Second semester; hours to be arranged; Associate Professor SALTER.

27. Soil Literature. (1 Hr.) Open to seniors and graduate students. Designed to familiarize the student with sources of information and current soil literature.

First and second semester; hours to be arranged; Associate Professor SALTER.

28. Plant Analysis. (3 Hrs.) Elective. Lectures and laboratory work on the methods of analysis of plants and plant products, of interest to anyone whose major is animal husbandry, agronomy or horticulture. Prerequisite: Agronomy 21. Laboratory fee, $2.50.

First semester; hours to be arranged; Associate Professor SALTER.

29. Research in Soils. Open to seniors and graduates. (Credit given in proportion to work done.)

Summer or either semester; Associate Professor SALTER.

Rural Engineering.

5. Farm Engineering. (4 Hrs.) Elective. A general course dealing with farm machinery, farm power, tile drainage, fences, farm buildings, lighting, water supply, sewage disposal, concrete construction and road building. Lectures and laboratory. Laboratory fee, $1.00.

Second semester; M. W. F., 11:00; F., 2:00.

4. Farm Machinery. (3 Hrs.) A detailed study of the construction, assembling and testing, and care of farm machinery. Prerequisite: Agronomy 5.

Second semester; W., 11:00; Th., 2:00.

6. Farm Structures. (2 Hrs.) Lectures covering properties of materials used, planning, construction, and relative cost of farm buildings and other farm structures. Prerequisite: Agronomy 5.

Second semester; W., 11:00; Th., 2:00.

ANIMAL HUSBANDRY.

Professor LIVESAY, Mr. WILSON and Mr. SHAW.

40. Introductory Animal Husbandry. (4 Hrs.) Required of freshmen. For students desiring foundation training in animal husbandry, whether in preparation for advanced courses of study or for a general knowledge of live stock. History of the leading breeds and livestock judging. Assigned readings, lectures and quizzes. Laboratory fee, $1.00.

First semester; M. W. F., 9:00 or 11:00; W. or F., 2:00; Professor LIVESAY and Mr. WILSON.

***42. Feeding Farm Animals.** (3 Hrs.) Elective. Classification digestibility and functions of food nutrients; market grades and food values of feeding stuffs; feeding standards and calculations of balanced rations; adaptability of different feeds; identifying feeds and mixing rations and feeding farm animals. Assigned readings, lectures, and quizzes. Prerequisite: Animal husbandry 40.

First semester; M. W. F., 11:00; Professor LIVESAY.

***43. Breeding Farm Animals.** (2 Hrs.) Elective. Evolution of domestic animals; history of their systematic breeding and improvement; unit characters; the range of variability; the effects of grading and crossing; and systems of breeding. Lectures, assigned readings, and quizzes. Prerequisite: Animal husbandry 40.

First semester; T. Th., 10:00.

44. Advanced Stock Judging. (2 Hrs.) Elective. Judging breeding and fat classes of livestock with reference to market and showyard requirements. Students taking this course will be required to participate in a tour of inspection of representative herds, flocks and studs. Prerequisite: Consent of instructor.

First semester; M., 2:00; S., 8:00; Animal husbandry staff.

***45. Animal Nutrition.** (2 Hrs.) Elective. Composition and fuel value of feeding stuffs; digestion, absorption and metabolism of food nutrients; elimination of metabolic products; coefficient of digestibility and nutritive value of feeding stuffs. Prerequisite: Animal husbandry 42 and Chemistry 16.

Second semester; Th., 10:00; Th., 2:00; Professor LIVESAY.

***46. Genetics.** (3 Hrs.) Heredity; variation; Mendel's and Galtons' laws; dominance and segregation; gametic coupling; correlation; mutation theory; inheritance of acquired characters; parental influences; pure lines; selection, variability, modification of unit factors. Practical application to breeding. Lectures; references. Prerequi-

site: Animal husbandry 43 or equivalent course. Laboratory fee, $1.00.
Second semester; M. F., 10:00; W., 2:00.

47. **Herd and Flock Book Study.** (2 Hrs.) Elective. A critical study of the most noted flocks and herds at home and abroad with a view to becoming acquainted with the pedigree of the leading blood lines and families of the different breeds of livestock. Prerequisite: Animal husbandry 40, 42, 43.

First and second semesters; hours to be arranged; Animal husbandry staff.

49. **Research.** (2 to 5 Hrs.) Elective. Intended primarily for advanced undergraduates and for graduate students who desire to do research along one or more of the following lines: (a) Nutrition. (b) Breeding. (c) Systems of livestock farming. (d) Advanced history of breeds of livestock. (e) Meats. Prerequisite: Permission from head of department.

First and second semesters; hours to be arranged; Animal husbandry staff.

50. **Animal Industry Seminar.** (1 Hr.) Required of juniors, seniors, and graduate students whose major is animal husbandry. Papers will be prepared and read by the members.

First and second semesters; alternate Mondays, 4:00; Animal husbandry staff.

51. **Thesis.** (Credit in proportion to work done).

First and second semester; hours to be arranged; Animal husbandry staff.

52. **Summer Practice.** (1 Hr.) One hours credit will be given for satisfactory reports, made in prescribed form, upon summer work done upon an approved livestock farm. (Request to do summer work must be made upon forms provided, not later than July 1st, and a report submitted by October 1st.)

Professsor LIVESAY.

60. **Beef Production.** (3 Hrs.) Elective. A critical study of beef breeds; beef type from the standpoint of the butcher, the feeder, and the breeder; market classes and grades; equipment, breeding and management; combined beef and milk production; wintering and grazing; finishing for market. Lectures, assigned readings, quizzes. Prerequisite: Animal husbandry 40.

Second semester; T. Th., 9:00; F., 2:00; Professor LIVESAY.

61. Horse and Mule Production. (3 Hrs.) Elective. A review of breeds, with a critical study of their type, characteristics and adaptability; equipment and methods of breeding and management; care of mares, stallions, jacks, and foals under farm conditions. Lectures, assigned readings, quizzes. Prerequisite: Animal husbandry 40.

First semester; T. Th., 9:00; F., 2:00; Assistant Professor _____

62. Mutton and Wool Production. (3 Hrs.) Elective. Breeds used for mutton and for wool production; type, characteristics, and adaptability; market classes and grades of sheep and wool; sheep breeding as applied to pure bred and grade flocks; feeding, housing and shepherding; factors affecting the quantity, quality, strength and condition of wool and health of the animals. Lectures, assigned readings, quizzes. Prerequisite: Animal husbandry 40.

Second semester; T. Th., 10:00; Th., 2:00; _____, Mr. WILSON and Mr. SHAW.

63. Pork Production. (3 Hrs.) Elective. A critical study of breeds with respect to type, characteristics, and adaptability; market classes; swine raising from the standpoint of economic production; breeding, housing, care and feeding of swine. Lectures, assigned readings, quizzes. Prerequisite: Animal husbandry 40.

Second semester; T. Th., 11:00; T., 2:00.

64. Meats. (2 Hrs.) Elective. Farm butchering, curing and care of meats; yield, quality, and value of meat and by-products as related to breeding, feeding, and health of animals; classes, grades and cuts of meat recognized in wholesale and retail markets. Prerequisite: Animal husbandry 40. Laboratory fee, $2.00.

First semester; hours to be arranged; Animal husbandry staff.

DAIRY HUSBANDRY.

Professor ANTHONY and Assistant Professor HENDERSON.

21. Farm Dairying. (3 Hrs.) Required of sophomores. Assigned readings, lectures and quizzes. An elementary course covering the principles of farm dairying. Laboratory fee, $1.00.

First semester; T. Th. 9:00, or M. F. 10:00; T. or Th. 10:00-12:00.

23. Milk Production. (4 Hrs.) Elective. This course deals with the economical production of milk and with the most approved methods of handling the dairy herd. Lectures, assigned readings, quizzes and laboratory. Prerequisite: Dairy Husbandry 21.

Second semester; M. W. F., 9:00, M. 2:00.

24. **Pure-bred Dairy Cattle.** (3 Hrs.) Elective. This course deals with the study of the different dairy herd books and of each of the dairy breeds with special attention to different families and pedigrees. Prerequisite: Dairy Husbandry 21.

First semester; hours to be arranged.

27. **Market Milk.** (3 Hrs.) Elective. Lectures, assigned readings, and laboratory. Prerequisite: Dairy Husbandry 23.

First semester_ W. F. 9:00, F. 2:00.

25. **Dairy By-Products.** (2 Hrs.) Elective. A thorough study of ice cream manufacture; also of fermented milks, milk sugar, condensed milk, etc. Prerequisite; Dairy Husbandry 21. Laboratory Fee, $2.00, refund $1.00, less breakage.

Second semester, one class period and one laboratory period. Hours to be arranged.

26. **Butter and Cheese Manufacture.** (4 Hrs.) Elective. A thorough study of the manufacture of butter and various classes of cheese. Lectures, assigned reading and laboratory. Prerequisite: Dairy Husbandry 21. Laboratory Fee, $2.00, refund, $1.00, less breakage.

First semester; T. Th., 8:00; laboratory hours to be arranged.

34. **Rsearch.** (1 or 2 Hrs. each semester.) Elective. For seniors and graduate students. Special problems in any line of dairy husbandry may be taken in this course according to needs of the student.

First and second semesters; hours to be arranged.

35. **Summer Practice.** (1 Hr.) Credit amounting to one hour will be given for satisfactory reports made in prescribed form upon summer work done on an improved dairy farm, or in creamery, cheese factory or market milk plant. (Request to do summer work must be made upon forms provided, not later than July 1, and a report submitted by October 1.)

ENTOMOLOGY.

Professor PEAIRS.

1. **General Entomology. (4 Hrs.) Required of sophomores. Laboratory and field work in collecting and mounting the more common local insects; classification of the insects collected; dissections and drawings of the external anatomy of various types. Text: Comstock's Manual for the Study of Insects. Laboratory fee, $1.00.

Second semester; M. W. F., 11:00, Th., 2:00.

Also given in Summer School.

2. **Economic Entomology. (2 Hrs.) Elective in the College of Agriculture and the College of Arts and Sciences. A general consideration of insect forms which directly affect the welfare of man and a discussion of methods of insect control. Prerequisite: Entomology 1.

Second semester; T. Th., 10:00.

9. **Horticultural Entomology. (2 Hrs.) Lectures and field observations on insects affecting fruit and vegetable crops with special consideration of control measures applicable to such forms. Prerequisite: Entomology 1.

Second semester; T. Th., 11:00.

3. **Advanced General Entomology. (3 Hrs.) Elective. Origin and development of insects; special structures, coloration, adaptations, structural and otherwise, internal anatomy. Lectures, assigned reference work and laboratory. Prerequisite: Zoology 1.

Second semester; hours to be arranged.

4. **Systematic Entomology. (Credit in proportion to work done, not to exceed 3 hours a semester.) A continuation of the work in classification begun in Course 1. Detailed studies of certain groups,

Either semester or Summer School; hours to be arranged.

5. **Research Entomology. (Credit in proportion to work done not to exceed 3 hours a semester.) For students wishing to make entomology their major. Prerequisite: Entomology 3.

Either semester or Summer School; hours to be arranged.

6. **Insects and Disease. (1 Hr.) Lectures on the more common insects known to be, or suspected of being, responsible for the transmission of diseases of man and the higher animals.

Second semester; hours to be arranged.

8. **Thesis.** (1 or 2 Hrs.)

First and second semesters; hours to be arranged.

FARM ECONOMICS.

Associate Professor DADISMAN.

***1. Farm Management.** (3 Hrs.) Required of juniors. Choosing, equipping and operating a farm; types of farming; rental system; farm labor; cost production; successful marketing; farm records and accounts, etc. Field trips during the latter part of the semester. Prerequisite: Agronomy 2, Soils 1.

Second semester; M. W. F., 9:00.

****2. Rural Economics.** (3 Hrs.) Required of juniors or seniors. Open also to graduate students. The study of economics as related to all phases of rural life. Prerequisite: Economics 15.

Second semester; M. W. F., 8:00.

3. Advanced Farm Management. (2 or 3 Hrs.) Open to seniors and graduate students. A continuation of Farm management 1 in the further study of farm operations and cost of production. Prerequisite: Farm management 1.

Second semester; hours to be arranged.

4. History of Agriculture. (3 Hrs.) Elective. The history of agriculture beginning with ancient references through all the stages of its development; early agricultural experiment stations and their work; the West Virginia Station; the United States Department of Agriculture.

Second semester; M. W. F., 10:00.

6. Thesis. (1 or 2 Hrs.)

Both semesters; hours to be arranged.

7. Marketing Agricultural Products. (2 Hrs.) Elective. A study of produce exchanges, methods of transportation, and municipal markets. Attention will be given to co-operation as a means for better marketing.

Second semester; T. Th., 8:00.

8. Farm Records and Accounts. (2 Hrs.) Open to juniors and seniors. A study of farm inventories, records and cost accounts from actual farm records.

Second semester; hours to be arranged.

HORTICULTURE.

Professor SHAW, Associate Professor JONES, Associate Professor KNOWLTON, Assistant Professor RICHEY, Assistant Professor PATCH, Assistant Professor CRANE and Mr. ANGELO.

Pomology.

2. **Elementary Pomology.** (3 Hrs.) Required of sophomores. A general course covering the propagation of our common fruits and the planting and management of orchards. Laboratory fee, $2.00.

First semester; T. Th., 9:00 or M. F., 10:00; T. W. or F., 2:00.

4. **Systematic Pomology.** (3 Hrs.) Elective. The history, botany and classification of fruits. The study of varieties of deciduous tree fruits with special reference to their adaption to West Virginia conditions. Prerequisite: Horticulture 2. Laboratory fee, $2.50.

First semester; M. W., 9:00; F. 2:00; Professor SHAW and Associate Professor KNOWLTON.

5. **Small Fruits.** (3 Hrs.) Elective. Care and management of small fruit plantations; varieties and their adaption to West Virginia soils and climate; packing and marketing; study of experimental plots and varieties under test. Prerequisite: Horticulture 2 and 3.

Second semester; T. Th., 9:00, Th., 2:00; Assistant Professor RICHEY and Mr. ANGELO.

7. **Commercial Fruit Growing.** (4 Hrs.) For juniors and seniors. The selection of orchard sites, the planting and care of commercial orchards. Pruning, spraying and soil management. Prerequisite: Horticulture 3.

First and second semesters; M. F., 10:00; F., 2:00; Assistant Professor CRANE.

21. **Advanced Commercial Fruit Growing.** (3 Hrs.) A continuation of Horticulture 7, with special consideration of harvesting, packing and marketing and the organization of commercial orcharding enterprizes. Prerequisite: Horticulture 7.

First semester; M. W., 9:00; Th., 2:00; Assistant Professor CRANE.

9. **Advanced Practical Pomology.** (1 Hr.) A trip occupying one week's time will be made through the fruit regions of Eastern West Virginia, Maryland and Pennsylvania. The cost will not exceed thirty dollars. Prerequisite: Horticulture 2.

First semester; Assistant Profecsor CRANE.

16. Fruit Judging. (1 Hr.) A course in fruit judging designed to train men for fruit judging teams and practical judging. Laboratory fee, $2.50.

Fist semester; hours to be arranged; Horticultural Staff.

18. Advanced Fruit Judging. (1 Hr.) A continuation of Horticulture 16. Laboratory fee, $2.50.

First semester; hours to be arranged; Horticultural Staff.

Olericulture and Floriculture.

***3. Elementary Vegetable Gardening.** (3 Hrs.) Required of freshmen. Each student will be required to plan, plant and care for a garden 20x40 feet in area. Laboratory fee, $2.00; refund of $1.00 less breakage.

Second semester; T. h., 8:00 or 9:00; Laboratory hours to be arranged; Associate Professor JONES.

8. Commercial Vegetable Gardening. (4 Hrs.) Designed to acquaint the student with the methods of production, harvesting, grading, packing, marketing and storage of the leading vegetables grown on a commercial scale. Prerequisite: Horticulture 3.

Second semester; M. W. F., 10:00; F., 2:00; Associate Professor JONES.

22. Systematic Olericulture. (3 Hrs.) History, botany, nomenclature and classification of vegetables. A critical study of varieties in their relation to environment.

First semester; M. F., 10:00; F., 2:00; Associate Professor JONES.

23. Plant Growth. (3 Hrs.) Required of students whose major is vegetable gardening. Open to seniors and graduates. This course is primarily a treatise on plant growth in relation to various environmental factors. The principal factors affecting growth of our economic plants will be given consideration. Prerequisite: Consultation. Special Laboratory work.

Second semester; M. W. F., 11:00; Associate Professor JONES.

6. Greenhouse Construction. (2 Hrs.) Elective. Lectures and discussions upon modern greenhouse construction. Heating, ventilation, and adaptation of various types of houses to special crops and conditions. Laboratory work in drafting, designing and erecting greenhouses. One lecture period and one laboratory.

First semester; hours to be arranged; Assistant Professor PATCH.

15. **Greenhouse Management.** (3 Hrs.) A study of the principal flower and vegetable crops, grown under glass, with special reference to those grown in the fall. Laboratory exercises will include practical work in the college greenhouses.

First semester; M. W., 9:00; W., 2:00; Assistant Professor PATCH.

24. **Advanced Greenhouse Management.** (3 Hrs.) A continuation of Horticulture 15, with special consideration of spring crops. Prerequisite: Horticulture 15.

Second semester; M. W., 8:00; W., 2:00; Assistant Professor PATCH.

25. **Ornamental Plant Materials.** (2 Hrs.) A study of the trees, shrubs, vines and hardy perennials used for ornamental planting. This course is offered in preparation for Horticulture 14.

First semester; Th., 11:00; M., 2:00; Assistant Professor PATCH.

14. **Rural Landscape Gardening.** (3 Hrs.) Designed for students who plan to be leaders in rural betterment. A study of the principle of landscape gardening and civic art in their application to the improvement of rural conditions and of home and school grounds. Lectures and discussions dealing with appreciation and laboratory practice in preparation of planting plans.

Second semester; T. Th., 8:00; M., 2:00; Assistant Professor PATCH.

General Courses.

*13. **Plant Breeding.** (3 Hrs.) Required of seniors specializing in horticulture. Open also to graduate students. The principles of variation and heredity, together with theories of evolution and their practical appication to problems of plant breeding; the status of genetics in agriculture and horticulture; problem work in biometry. Prerequisite: Botany 3 and 4.

First semester; M. W. F., 11:00; Professor SHAW and Assistant Professor RICHEY.

19. **Plant Breeding Practice.** (1 Hr.) Open to seniors and graduate students. Prerequisite: Horticulture 13.

Second semester; hours to be arranged; Professor SHAW.

11. **Plant Industry Seminar.** (1 Hr.) Required of seniors and graduate students in horticulture and open to juniors. A joint seminar of the departments of agronomy and horticulture. Papers by members of the class upon subjects pertaining to their research or thesis work, or upon special problems. Discussion of special topics by members of the faculty.

First and second semester; alternate Mondays, 4:00; Horticultural Staff.

10. **Thesis.** (1 or 2 Hrs.) For seniors and graduate students. Students should arrange their problem before the close of their junior year so that materials may be on hand and no delay be necessary in the following year.

First and second semester; hours to be arranged; Professor SHAW and Staff.

12. **Horticultural Research.** (2 Hrs.) Open to seniors and graduate students, specializing in horticulture. A critical consideration of the results of horticultural investigations in this and foreign countries and their application to West Virginia conditions. Lectures, reference work and special probems.

Second semester; hours to be arranged; Professor SHAW, Associate Professor JONES and Assistant Professor PATCH.

20. **Experimental Methods in Horticulture.** (2 Hrs.) Open to senior and graduate students. A study of the origin and development of horticultural research and of research institutions, methods of investigation and the organization and administration of horticultural research.

Second semester; hours to be arranged; Professor SHAW.

17. **Summer Practice.** (1 Hr.) Open to juniors and seniors. One hour credit will be given for satisfactory reports made by students who spend the summer upon an approved fruit or truck farm or in a greenhouse establishment. Application for credit must be made by July 1st and a report submitted by October 1st.

Professor SHAW, Associate Professor JONES, and Assistant Professoro PATCH.

PLANT PATHOLOGY.

Professor GIDDINGS.

1. **Experimental Plant Pathology.** (2 to 5 Hrs.) Elective. Intended primariy for undergraduate and graduate students in agronomy and horticuture.

First and second semesters; hours to be arranged.

2. **Research.** (1 to 3 Hrs. each semester). Elective. Designed primarily for seniors and graduate students whose major work is in agronomy or horticulture. Detailed laboratory and field studies of actual present day problems with special consideration of the particular needs of the student. Prerequisite: Plant Pathology I or its equivalent.

First and second semesters; hours to be arranged.

3. **Thesis.** (1 to 2 Hrs.) Elective. Open to seniors or graduate students. It is highly desirable that students who plan to take this work should make some preliminary arrangements before the close of their junior year.

First and second semesters; hours to be arranged.

POULTRY HUSBANDRY.

Associate Professor ANDREWS.

*1. **Farm Poultry.** (3 Hrs.) Required of sophomores. Common breeds and varieties of poultry; the poultry house and its equipment; hatching and rearing chicks, care and management of flock; marketing poultry and poultry products; the most common poultry diseases, their prevention and treatment. Laboratory fee, $1.00.

Second semester; M. F., 10:00; S., 9:00.

5. **Housing and Feeding.** (3 Hrs.) Elective for juniors. Lectures on the various types of poultry houses, their location, construction and equipment; feeds and feeding; practice in constructing and remodeling houses and equipment, and mixing rations.

First semester; hours to be arranged.

6. **Incubation, Brooding and Rearing.** (2 Hrs.) Elective for juniors. Lectures on the fundamental principles involved in natural tures on the various types of poultry houses, their location, construction and operation of incubators and brooders; practice in their operation.

Second semester; hours to be arranged.

7. **Breeds and Breeding.** (3 Hrs.) Elective for juniors. Lectures on the different classes, breeds and varieties, their origin, history, and classification; breeding for standard and utility; practice in judging poultry, selection and mating of flock.

First semester; hours to be arranged.

8. **Marketing.** (2 Hrs.) Elective for juniors. Lectures on marketing poudtry and poultry products; practice in caponizing, killing, dressing and packing; grading, candling and shipping eggs. One hour lecture and one hour practice.

Second semester; hours to be arranged.

9. **Poultry Diseases.** (1 Hr.) Elective. Lectures and laboratory practice on prevention and treatment of poultry diseases and parasites; anatomy of the fowl, diagnosis and treatment of specimens.

First and second semester; hours to be arranged.

10. Research. (1 to 3 Hrs.) Elective for seniors. A study of methods of investigation together with the working out of some original problems.

Eeither semester; hours to be arranged.

VETERINARY SCIENCE.

Associate Professor LUEDER.

1. Anatomy and Physiology. (3 Hrs.) Elective. A systematic description of the bones, muscles, viscera, and the vascular, lymphatic and respiratory systems. The structure of the ox, sheep, and pig, as contrasted and compared with that of the horse. The functions of the various organs and tissues of the body, the chemical constitution and physical laws which affect growth, reproduction and development.

Second semester; T. Th., 9:00; laboratory, T., 2:00.

2. Diseases of Farm Animals and Materia Medica. (3 Hrs.) Elective. A study of the important diseases of all domestic animals, method of treatment and drugs for their cure. Prerequisite: Veterinary science 1.

Second semester; T. Th., 10:00; Th., 2:00.

3. Veterinary Science. (3 Hrs.) Elective. A comparative study of the structures and functions of the different organs of the horse, ox, sheep and pig; cause, prevention, symptoms and first aid treatment of these animals.

Second semester; T. Th., 10:00, laboratory hours to be arranged.

4. The Horse. (2 Hrs.) Elective. A study of the most successful methods of handling stallions, jacks, and brood mares, care of the foal, growing and developing young horses for market and the mechanics of the horse. Prerequisite: Animal husbandry 40 and 43.

Second semester; F., 11:00; F., 2:00.

5. Parasites of Farm Animals. (2 Hrs.) Elective. Lectures and text book study. Classification, life history and identification of the parasites of domestic animals; prevention of infection, symptoms and treatment of the animals; methods of control of the parasites. Prerequisite: Entomology or Zoology 1, and Veterinary science 1.

Second semester; F., 10:00, and laboratory hours to be arranged.

III. INSTRUCTION IN HOME ECONOMICS.

ORGANIZATION.

For purposes of administration the department is organized under the College of Agriculture. The work involves three lines:

1. In the College of Agriculture a prescribed curriculum is outlined whereby students may select as their major either general home economics or vocational home economics in preparation for the degree of Bachelor of Science in Home Economics.

2. In the College of Arts and Sciences students working for the degree of Bachelor of Arts may take home economics as a major and must meet the requirements for the degree as prescribed by that college (page). The head of the department of home economics acts as class officer for such students.

3. Extension work in home economics is given under the direction of the Division of Agriculture Extension (page).

AIM AND SCOPE.

The course leading to the degree of Bachelor of Science in Home Economics is planned for women students and especially for those who wish to teach home economics in vocational schools and other institutions or to learn the business of home keeping. The aim of the course is to give women such training as will best prepare them to assume their responsibilities as members of a household and a community. This training includes: first, a knowledge of those sciences which are fundamental to an understanding of the principles of home economcs; second, technical courses in food, shelter, and clothing which will enable the student to establish standards of living; third, a general knowledge of the law of production and consumption obtained from courses in oral and written English and in English literature. To provide for this training a curriculum is prescribed. Sufficient electives are allowed to permit the student to qualify for vocational home economics, or to take special courses in agriculture, or to select other courses in which she is interested.

EQUIPMENT.

The department occupies two floors of the wing of Oglebay Hall. On the first floor are two large well equipped food laboratories, a suite of rooms consisting of dining room and kitchen and reception room, a textile laboratory, a reading room, and the offices of the department. On the second floor there are three textile laboratories equipped with sewing machines and electric motor attachments. There is also on this floor a large recitation room for demonstrations.

ENTRANCE REQUIREMENTS.

For admission to the course leading to the degree of Bachelor of Science in Home Economics, the requirements are the same as for admission to the course in agriculture. (See page 203.)

REQUIREMENTS FOR THE DEGREE OF BACHELOR OF SCIENCE IN HOME ECONOMICS.

Credits Required.

The degree of Bachelor of Science in Home Economics will be conferred upon any student who satisfies the entrance requirements and offers one hundred and twenty-eight hours credit for college courses including a satisfactory thesis.

The "semester hour" is the standard in computing the amount of work required for graduation. The "hour" represents the amount of work done in one semester (eighteen weeks) and in one recitation hour with two preparation hours a week, or in three hours practice or laboratory work requiring no outside preparation. No student is permitted to register for less than fourteen hours or more than seventeen hours of work in any one semester.

Required and Elective Courses.

Of the one hundred and twenty-eight hours credit required for the degree eighty-nine hours are definitely prescribed as indicated in the curriculum which follows. The remaining thirty-nine hours' credit must be elected from such courses as may be prescribed by the class officer. The required and the elective courses in the subject of home economics must amount to not fewer than forty hours in all.

To qualify for the vocational home economics certificate, the student must take the following courses in addition to those listed in the curriculum:

Home Economics, 51, 52, 36 and 37.

Education 4, 5, 10 and 22.

Elective courses in education, 3 hours.

For students interested in rural life the following courses are recommended: Home economics 50; Horticulture 2 and 3; Poultry husbandry 1; Dairy husbandry 21.

Class Officer.

The head of the department of home economics will act as class officer.

All students who wish to enter the university for the purpose of taking home economics should confer with the head of the department before registering.

Thesis.

Each candidate for the degree of Bachelor of Science in Home Economics will be required to prepare a thesis on some subject related to the work in home economics. The thesis will be based upon the student's personal work. The subject of the thesis must be presented in writing to the head of the home economics department by the first of November of the academic year in which the student is a candidate for a degree. The completed thesis must be presented for approval not later than thirty days prior to commencement day.

Classification of Students.

To be classified as a conditioned freshman a student must have credit for at least thirteen units of entrance requirements; to be classified as a regular freshman she must have fulfilled all entrance requirements. To be classified as a sophomore she must have credit for twenty-five hours of college work; as a junior, firty-eight hours; as a senior, ninety-two hours.

CURRICULUM LEADING TO THE DEGREE OF B. S. H. E.

Freshman Year—First Semester.

		Hrs.
English 1	8:00 M. W. F.	3
Chemistry 1	9:00 M. W. F.	4
Laboratory	2:00 M. or F.	
Home economics 1	9:00 T. Th	4
Laboratory	10:00-12:00 T. Th.	
or Home economics 31	9:00 T. Th.	3
Laboratory	2:00 W.	
History 19	11:00 M. W. F.	3
Home economics 41	2:00 T. Th.	2
		15 or 16

Electives: English 26 and 27.

Freshman Year—Second Semester.

		Hrs.
English 2	8:00 M. W. F.	3
Chemistry 2	9:00 M. W. F.	4
Laboratory	2:00 M. or F.	
Home economics 2	9:00 T. Th	4
Laboratory	10:00 T. Th.	
or Home economics 32	9:00 T. Th.	3
Laboratory	2:00 W.	
History 29	11:00 M. W. F.	3
Home economics 42	2:00 T. Th.	2
		15 or 16

Sophomore Year—First Semester.

		Hrs.
Botany 1	8:00 M. F.	4
Laboratory	2:00 M. F.	
English 26	8:00 T. Th.	2
Home economics 11	9:00 T. Th.	4
Laboratory	10:00 to 12:00 T. Th.	
Education 17	10:00 M. W. F.	3
Elective		3
		16

Sophomore Year—Second Semester.

		Hrs.
Botany 2	8:00 M. F.	4
Laboratory	2:00 M. F.	
English 27	8:00 T. Th.	2
Home economics 14	9:00 T. Th.	3
Laboratory	10:00 to 12:00 T. Th.	
Education 12	10:00 M. W. F.	3
Elective		4
		16

Electives: Home economics 41 and 42; Bacteriology 5; Home economics 9. Zoology 1 and 2 may be substituted for Botany 1 and 2 if necessary to meet requirements.

Junior Year—First Semester.

		Hrs.
Bacteriology 5	8:00 T. Th.	2
Chemistry 16	9:00 T. Th.	3
Laboratory	2:00 W.	
Sociology 1	10:00 M. W. F.	3
Home economics 24	10:00 T. Th.	2
Home economics 21	2:00 T. Th.	3
Home economics 12	2:00 M. F.	3
		16

Junior Year—Second Semester

		Hrs.
Home Eonomics 9	8:00 T. Th.	2
Botany 10	11:00 T. Th.	3
Laboratory	2:00 W.	
Sociology 9	9:00 T. Th.	2
Home economics 25	10:00 M. W. F.	3
Home economics 20	2:00 T. Th.	2
Home economics 44	2:00 M. F.	3
Elective		1
		16

Electives: Education 4 and 5, if necessary to meet requirements.

Senior Year—First Semester.

		Hrs.
Home economics 51	11:00 T. Th.	2
Home economics 17	2:00 M. F.	3
Electives		11
		16

Senior Year—Second Semester.

		Hrs.
Home economics 52	9:00 T. Th.	2
Electives		14
		16

Electives: Sociology 1 and 9; Education 10 and 22; Home economics 26 and 27, if necessary to meet requirements.

COURSES IN HOME ECONOMICS.

Associate Professor COLWELL, Miss REILLY, Miss GILL, Miss SCHMIDT, Miss DEVERE and Miss YOUNG.

(1) Students in the College of Arts and Science who select home economics as their major are required to take Courses 1 and 2 or 31 and 32, 21, 24, in the food group, Courses 9 and 14 in the house and family group, and Courses 41, 42, 11, 12, and 44 in the clothing and textile group Students who are preparing to teach home economics must also take Courses 26 and 27.

(2) Science requirements: Chemistry 1 and 2 and Botany 1 and 2, or Zoology 1 and 2, are prerequisites or parallel for all courses in home economics except certain courses listed below. Chemistry 16 and Botany 10 are prerequisite or parallel courses for most of the advanced courses in home economics and for all who wish to teach home economics.

(3) Students who do not wish to take the sciences required may elect the following courses: 41, 42, 11, 14, 44.

(4) Attention is called to the fact that students who take the B. S. H. E. degree are required to take in addition to home economics courses required for the A. B. degree, Courses 17, 20, and 25.

(5) Students who wish to take the advanced work in home economics are expected to have repeated in the home, until skill has been acquired, the problems given in the elementary courses.

Foods.

1. Selection and Preparation of Food. (4 Hrs.) A study of the chemical composition, relative physiological and economic value of the animal foods and their products; processes in the production of raw food material. It is recommended that Chemistry 1 and 2 precede or parallel this course. Laboratory fee, $3.00.

First semester; T. Th., 9:00; laboratory sections (limited to twenty students each), for students in Colloge of Agriculture, T. Th., 10:00-to12:00; other sections, M. F., 2:00; T. Th., 2;00; Miss DEVERE and Miss SCHMIDT; 208 and 112, O.

2. Selection and Preparation of Food. (4 Hrs.) Continuation of of course 1. A study of the chemical composition and relative physiological and economic value of the vegetable foods and their products; processes in the production of raw food material; principles of diet. Prerequisite: Same as in course 1. Laboratory fee, $3.00.

Second semester; T. Th., 9:00; laboratory sections (limited to twenty students each), for students in College of Agriculture, T. Th., 10:00-12:00; other sections, M. F., 2:00; T. Th., 2:00; Miss SCHMIDT and Miss DEVERE; 208 and 112. O.

31. **Selection and Preparation of Food.** (3 Hrs.) Similar to course 1. For students who offer one unit of cooking for entrance. Laboratory fee $3.00.

First semester; T. Th., 9:00; laboratory section, W., 2:00; Miss SCHMIDT; 208 and 112, O.

32. **Selection and Preparation of Food.** (3 Hrs.) Similar to course 2. For students who offer one unit of cooking for entrance. Laboratory fee, $3.00.

Second semester; T. Th., 9:00; laboratory section, W., 2:00; Miss SCHMIDT; 208 and 112, O.

21. **Home Cooking.** (3 Hrs.) This course includes a study of amounts, cost, season, dietetic value of food, combinations suitable for the statistical family for breakfast, luncheon or supper, and dinner. Prerequisite: Home Economics 1 and 2. Parallel course Home economics 24. Laboratory fee, $5.00.

First semester; T. Th., 2:00; Miss SCHMIDT, 113, O.

20. **Home Cookery.** (2 Hrs.) Continuation of course 21. Prerequisite: Same as in course 21. Labiratory fee, $5.00.

Second semester; laboratory, T. Th., 2:00; Miss SCHMIDT; 113 O.

22. **Demonstrations.** (2 Hrs.) This course includes a study of how to select and how to present the subject of foods before organiations or groups of rural people. Prerequisite: Home economics 1 and 2. Laboratory fee, $1.00.

First semester; T. Th., 4:00; Associate Professor COLWELL.

23. **Demonstrations.** (2 Hrs.) Continuation of course 22. Prerequisite: Home economics 1 and 2. Laboratory fee, $1.00.

Second semester; T. Th., 4:00; Associate Professor COLWELL.

24. **Elementary Dietetics.** (2 Hrs.) A study of the fuel value of foods; the relation of the different foodstuffs to the fuel value and to the cost of foods, the food requirement o the normal adult and its cost. Prerequisite: Home economics 1 and 2. Parallel course. Home economics 21 and Chemistry 16.

First semester; T. Th., 10:00; Associate Professor COLWELL; 208 O.

25. **Dietetics.** (3 Hrs.) A study of digestion, absorption, assimilation of the foodstuffs; amounts of food required for the nutrition of the normal adult at rest and at work; diet for infancy, youth, old age; special diets; cost of family dietaries. Prerequisite: Chemistry 16, Home economics 1, 2, 21, 24.

Second semester; M. W. F., 10:00; Associate Professor COLWELL, 208 O.

Textiles and Clothing.

11. **Applied Design.** (4 Hrs.) The principles of line, space relations, value and color are studied and applied to home furnishing and to dress. Neatness in the use of oil paints and water colors is developed in the application of designs to enameled articles, book covers, and in the special problems of room and dress designing.

First semester; T. Th., 9:00; laboratory, T .Th., 10:00-12:00; W., 2:00-5:00; Saturday, 9:0-12:00; Miss GILL, 212, O.

Second semester; W., 2:00-5:00; S., 9:00-12:00; Miss GILL, 212, O.

12. **Textiles.** (3 Hrs.) History and evolution of the textile industries; manufacturing conditions which affect the economic, hygienic, and aesthetic value of the material; household tests and grading of textile materials.

First semester; M. F., 2:00 to 5:00; Miss REILLY.

15. **Textiles.** (3 Hrs.) A study of the chemical and miscroscopic nature of textile fibres; the different weaves and their physical, chemical and miscroscopic examination of textiles, dyeing, weaving, and a selection of textile fabrics suitable for use in home furnishing and for clothing.

Second semester; hours to be arranged; Miss REILLY.

41. **Hand and Machine Sewing.** (2 Hrs.) For students who do not offer sewing for entrance. This course includes a brief study of cotton materials, hand and machine work.

First semester; laboratory sections, M. F., 8:00-10:00; M. F., 2:00-4:00; Miss DEVERE.

Second semester; laboratory section, M. F., 2:00-4:00; Miss DEVERE; 212, O.

42. **Elementary Course in Clothing.** (2 Hrs.) For students who offer one unit of sewing on entrance of its equivalent. A continuation of 41. This course includes the use of the sewing machine and its attachments. The selection of materials and principles of construction will be worked out in planning and making underwear and a simple dress.

First semester; M. F., 2:00-4:00; Miss REILLY; 212, O.

Second semester; M. F., 8:00-10:00; T. Th., 2:00-4:00; Miss REILLY; 203 O.

43. **Elementary Course in Clothing.** (4 Hrs.) Similar to course 41 and 42, for those who do not offer sewing for entrance.

First or second semester; M. W. F. S., 8:00-10:00; Miss DEVERE.

44. **Selection and Construction of Clothing.** (3 Hrs.) A study of actual wardrobes with reference to the relation of the individual articles to the whole; planning a revised wardrobe to meet standards of line, color, texture, and cost; clothing budgets; designing a spring and summer wardrobe; designing and making a summer dress. Prerequisite: 41, 42, 12.

Second semester; laboratory sections, M. F., 2:00-5:00; W., 2:00-5:00; S., 9:00-12:00; Miss GILL; 213, O.

17. **Selection and Construction of Clothing.** (3 Hrs.) A continuation of course 44. The study of fall and winter wardrobes; designing and making of a wool dress and a silk afternoon or evening dress, one of these to be a make-over problem; clothing budgets. Prerequisite: courses 12, 41, 42 and 44.

First semester; M. F., 2:00-5:00; Miss GILL, 213, O.

The House and the Family.

9. **Hygiene of the Family Group.** (2 Hrs.) The purpose of this course is to give a knowledge of those principles of sanitation which are essential to the well-being of the family group. Parallel course, Bacteriology 5.

Second semester; T. Th., 8:00; Miss REILLY.

14. **Home Planning and Furnishing.** (3 Hrs.) A study and comparison of floor plans; structural lines and their relation to the decoration of the house, including problems in treatment of floors, walls and ceilings, and the arrangement of furnishings. The selection of furnishing for an estimated cost. Prerequisite: course 11.

Second semester; T. Th., 9:00-12:00; Miss GILL and Miss REILLY, 212, O.

18. **Home planning and Furnishing.** (3 Hrs.) Continuation of course 14. Evolution of the house; the location and construction of modern houses are studied from the sanitary, economic and artistic point of view; a study of architectural styles; designing of floor plan and elevations of a house for an estimated cost. Period furnishings and their relation to modern homes. Designing of rooms with detailed work in color and fabric combinations. Prerequisite: Home Economics 14.

First semester; hours to be arranged; Miss REILLY and Miss GILL.

19. **Modern and Period Furnishings.** (2 Hrs.) Modern and period decorations and furnishings; original designs showing harmonious treatments in selection and arrangement of furnishings.

Second semester; hours to be arranged; Miss GILL.

51. **Housewifery.** (2 Hrs.) A study of the care of the equipment of the home under varied living conditions as represented by types of different homes. Prerequisite: All required courses in home economics for vocational home economics.

First semester; T. Th., 11:00.

52. **Home Management.** (2 Hrs.) A study of the administrative side of the home, which includes the budget and time schedule based upon data obtained in the food, clothing and shelter courses. Prerequisite: All required courses in home economics for vocational home economics.

Second semester; T. Th., 9:00.

50. **Demonstration Home.** (3 Hrs.) This course includes practical work in marketing, planning, and serving meals and other problems in home management. Students taking this course are expected to live in the demonstration home. Required of students in vocational education.

First or second semester.

Teachers' Courses.

26. **Home Economics in Public Schools.** (2 Hrs.) Open only to seniors. A brief survey of the development of home economics and its present status. Establishment of standards by means of which subject matter may be selected for elementary, secondary, and rural schools. Parallel course, Education 10. Prerequisite: All required home economics courses.

First semester; M. F., 8:00; Miss GILL.

27. **Teachers' Course in Home Economics.** (3 Hrs.) This course includes a study of sequence of subject matter in planning courses df study in public schools; special methods of presentation; correlation with other subjects in the schools. Prerequisite: Home economics 26.

Second semester; M. W. F., 9:00; Associate Professor COLWELL.

36. **Vocational Home Economics in Public Schools.** (2 Hrs.) A study of the subject matter which should be presented in vocational schools in clothing and textiles. Required of students in vocational education.

First semester; T. Th., 10:00; Professor COLWELL and Miss GILL.

37. **Teachers' Course in Vocational Home Economics.** (3 Hrs.) This course includes a study of sequence of subject matter in foods and home management for vocational schools. Prerequisite: Home economics 36. Required of students in vocational education.

Second semester; M. W. F., 9:00; Associate Professor COLWELL.

8. Special Problems. (1 to 4 Hrs.) Open to juniors and seniors. Thesis course. This course is designed to give advanced work in home economics problems. Lectures, conferences, laboratory work. Prerequisite: All elementary courses in home economics, Chemistry 1 and 2, Botany 1 and 2, or Zoology 1 and 2.

First or second semester; hours to be arranged; Associate Professor COLWELL and Miss GILL.

IV. AGRICULTURAL EXTENSION DIVISION.

The Agricultural Extension Division was established by the University in 1907. Further support was given by an act of the State Legislature in 1913, legally establishing and defining the work of the Division (see Se. 172, Chapter 71, Acts of 1913) and again in 1919 (see Chapter 2, Sec. 139, Act 1919—the school code).

The work of the Agricultural Extension Division is also supported by an act of Congress, approved May 8, 1914, known as the Smith-Lever Act which provides a gradually increasing appropriation for demonstration work in agriculture and home economics contingent upon equal appropriations by the State.

FORMS OF WORK.

By a co-operative agreement between the United States Department of Agriculture, the Extension Division, and the County Farm Bureau, county agents and home demonstration agents are employed to supervise the various forms of extension work in the counties.

The following are some of the forms of work carried on under this arrangement:

1. Demonstrations in the better care and feeding of livestock and poultry, care of orchards, use of legumes, crop rotations, home management, home conveniences, community scoring, etc.

2. Boys' and girls' club work, including projects in corn, potatoes, poultry, pigs, sheep, gardening, canning, and sewing. In connection with this work a 4-H Camp is held in several counties.

3. Farmers' and Farm Women's Clubs which community organizations co-operate in holding extension schools, farmers' institutes, reading circles, district and county agricultural exhibits, etc.

4. Publications and news service.

5. Correspondence in answer to inquiries requesting agricultural information.

THE FARMERS' WEEK.

The Farmers' Week is a week (usually the first week in January) set aside by the College of Agriculture and the West Virginia Federation of Farm Bureaus as a time when the delegations of farmers and farm women from the various counties and the officials of the college meet and confer relative to the rural work done and to be done in West Virginia.

The program consists of lectures and demonstrations on general agricultural subjects by members of the faculty and out of state experts. This instructional work is given each forenoon. In the afternoon the program is in charge of the West Virginia Federation of Farm Bureaus and is in the nature of conferences relative to various state problems confronting the rural people. The evening program usually consists of a musical program and a lecture by someone with a national reputation on some subject relating to rural life.

The week is open to everyone and no fees are charged. The next Farmers' Week will be held at Morgantown, January 3-7, 1921.

Immediately following Farmers' Week the Extension Division carries on a series of extension schools. These schools are open to all. There are no fees or entrance requirements. They are especially planned for the farmers and farm boys who want to get some good practical training in agriculture but cannot arrange to attend high school or college.

The following will be offered during the coming year:—

January 10-15	Horticulture.
January 17-22	Agronomy.
January 24-29	Poultry and Dairying.
January 31-February 5	Livestock.
February 7-12	Veterinary Science and Community Organization.

Special lectures will be given each week by some of the most successful farmers in the state.

In addition to the Farmers 'Week, the State 4-H Camp (Prize Winners' Course) for the members of the boys' and girls' clubs is held at the University in June. A special program for these young people is provided which program is so planned as to aid in their 4-H development—Head (mental), Heart (religious), Health (physical), and Hand (social).

The date of the next state meeting for boys and girls is June 16-21, 1920.

Further information relative to the work of the Extension Division may be obtained upon application to the Director Agricultural Extension, Morgantown.

THE COLLEGE OF LAW

THE FACULTY.

FRANK BUTLER TROTTER, A.M., LL.D., *President of the University*

HENRY CRAIG JONES, A.B., LL.B., *Dean and Professor of Law*

WILLIAM PATRICK WILLEY, A.M., *Professor of Law, Emeritus*

JAMES RUSSELL TROTTER, A.M., LL.B., *Professor of Law*

JAMES WIGGINS SIMONTON, A.B., J.D., *Professor of Law*

THOMAS PORTER HARDMAN, M.A., LL.B., JUR. DR., *Professor of Law*

LEO CARLIN, A.B., LL.B., *Associate Professor of Law*

---------- *Assistant Professor of Law*

WILBUR JONES KAY, A.M., *Professor of Public Speaking*

JUDGES OF THE PRACTICE COURT AND SPECIAL LECTURERS ON PRACTICE FOR 1919-20.

JOHN T. GRAHAM, *Judge of Sixth Judicial Circuit*

HAYMOND MAXWELL, *Judge of Fifteenth Judicial Circuit*

JOHN C. McWHORTER, *Former Judge of Twelfth Judicial Circuit*

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[1]KATHARINE RUSSELL, *Secretary and Librarian*

[2]KATHLEEN G. BINGHAM, *Secretary and Librarian*

[3]JULIAN LAMAR HAGEN, A.B., *Library Assistant*

OKEY PAUL KEADLE, *Library Assistant*

[4]HOWARD NELSON LUCKEY, *Library Assistant*

STANLEY CLARENCE MORRIS, A.B., *Library Assistant*

[1]Resigned, April 30, 1920.
[2]Appointed, May 1, 1920.
[3]Resigned, January 1, 1920.
[4]Appointed, January 1, 1920.

HISTORY AND PURPOSE.

The College of Law was established in 1878 and is the oldest professional school in the University. It is the only law school in the state of West Virginia. A large proportion of the bench and bar of West Virginia have been enrolled among its students.

Its course of instruction for the degree of Bachelor of Laws, originally requiring but one and later two years of law study, was, in 1912, fixed at three years. In 1913 a requirement of one year of college work for admission was added.

In 1914 the College of Law was admitted to membership in the Association of American Law Schools, an organization of the leading law schools of the United States for the purpose of establishing and maintaining high standards of legal education.

The purpose of the instruction given in the College of Law is to train the student thoroughly in the principles and procedure of the common law with particular reference to their application or modification by decision and statute in West Virginia.

EQUIPMENT.

The College of Law occupies space on the second and third floors of Woodburn Hall. About one-half of this space is used by the law library and the private offices of the members of the law faculty. The remainder is devoted to class-room and practice-court use.

NEW LAW BUILDING.

The appropriation has been made and plans have been approved for the construction of a new building for the exclusive use of the College of Law. The building will be of fire-proof construction, one hundred and thirty-eight feet in length, fifty-six feet in minimum width, and three stories in height. It will contain three class-rooms, a fully-equipped practice court room, study-rooms with space for one hundred fifty readers, private offices for members of the faculty, the dean, the librarian and the secretary, a Law Quarterly room, club rooms for both men and women students, locker rooms with a capacity of two hundred and fifty, a clerk and sheriff's office, and stack and shelf space for sixty thousand volumes. It is expected that the building will be ready for occupancy in the summer of 1921.

LAW LIBRARY.

The Law Library numbers about 14,000 volumes. It contains the reports of the highest courts of all the States and the District of Columbia, either complete or to the National Reporter System (including several sets of Virginia and West Virginia reports), most of the published reports of the lower courts of the various States, the complete National Reporter System, the complete reports of the Federal courts, the various sets of annotated selected cases, the various American and English encyclopedias of law, the complete general digest system of the West Publishing Company, a collection of English reports containing the English Reprint and the Law Reports, complete sets of leading English and American legal periodicals, over 1,000 volumes of treaties, over 800 volumes of state and federal statutes, including the latest codes, compilations and acts of the United States and of all the states together with a complete collection of the various codes and acts of Virginia and West Virginia, and over 500 volumes of briefs and records of cases decided by the Supreme Court of Appeals of West Virginia.

ENTRANCE REQUIREMENTS.

CANDIDACY FOR THE DEGREE OF BACHELOR OF LAWS.

The following persons will be admitted to the College of Law as candidates for the degree of Bachelor of Laws:

1. Graduates of colleges of approved standing.
2. Those having credit: (a) for fifteen units preparatory work (see below), and (b) for not less than 32 hours of work of collegiate grade in an institution of approved standing, which must include six hours of English (English 1 and 2 or equivalent), three hours of economics, and six hours of history. Persons having credit for all preparatory entrance requirements and twenty-nine of the thirty-two required hours may be granted admission to the first year class, conditioned upon the removal of such deficiency before the opening of the following year.

To satisfy the fifteen units of secondary school work (work of a standard four-year high school),[1] the following groups are required:

(1) Four units of English.
(2) Three units in one other subject.
(3) Two units in a third subject.
(4) Two units in a fourth subject.
(5) Four units elective.

Two units of Laton must be offered. Then two units will satisfy one of the two-unit group requirements.

Work in the following subjects not to exceed the number of units placed after each subject will be accepted:

English	4 units	Science[3]	
		Physics	1 unit
Foreign languages[2]		Chemistry	1 unit
Latin	4 units	Biology	1 unit
Greek	3 units	Botany	1 unit
French	3 units	Geology	1 unit
German	3 units	Zoology	1 unit
German	3 units	General science	1 unit
Spanish	2 units	Physical geography	1 unit
Italian	2 units	Physiology	1 unit
		Hygiene and sanitation	1 unit
Mathematics			
Algebra	1½ units	Vocational subjects (not to exceed four units in all.)	
Plane geometry	1 unit		
Solid geometry	½ unit	Agriculture	3 units
Trigonometry	½ unit	Household arts	3 units
History and economics		Manual training	3 units
History	3 units	Bookkeeping or bookkeeping and commercial arithmetic	2 units
Civics	1 unit		
Elementary economics and sociology	1 unit	Shorthand and typewriting	2 units
Education	2 units	Commercial geography	½ unit
		Commercial law	½ unit
Drawing			
Free-hand drawing	1 unit	Music:—violin, organ or piano	2 units
Mechanical drawing	1 unit		

[1] These admission requirements are effective from May 1, 1919, but graduates from high schools in 1919, 1920, or 1921 may, if they prefer, enter with the requirements as stated in the University catalogue for 1918-19.

[2] Not less than two units of one foreign language will be accepted for entrance.

[3] A group of two units in science may be made by combining one unit each of physics and chemistry or one unit each of any of the following: biology, botany, zoology, geology. A group of three units in science may be made by combining one unit each of any of the following: physics, chemistry, biology, botany, zoology, geology.

PRE-LEGAL COURSES IN COLLEGE OF ARTS AND SCIENCES.

Students are urged to complete at least three years of work in the College of Arts and Sciences before entering the College of Law, thus placing themselves in position to take advantage of the combined six-year course which leads to both arts and law degrees. Thorough work of collegiate quality in American constitutional and English constitutional history, economics, and English is particularly essential.

Students who offer only one year (32 hours) of college credit for admission are required to have completed the following courses: English 1 (3 hrs.), English 2 (3 hrs.), Economics 1 (3 hrs.). The student must also have completed six hours of history which should include History 17 (or 18) and History 22. Students coming from other colleges must present equivalent courses. In satisfaction of the remaining seventeen hours, which are elective, the following are recommended as best suited to pre-legal students: History 23 (3 hrs.), History 18 (3 hrs.), Economics 2 (3 hrs.), English 26 (2 hrs.), English 27 (2 hrs.), and one or two courses in philosophy or in public speaking.

For students who offer two years (64 hours) of college credit for admission, the following work is recommended in addition to that required or recommended for students offering only one year of college credit: An advanced course in composition and rhetoric (preferably English 4), History 20 (2 hrs.), History 35 (2 hrs.), History 37 (1 hr.), (or 40), Public Speaking 14 (2 hrs.) and 15 (2 hrs.), Economics 5 (3 hrs.), Economics 6 (4 hrs.), Economics 11 (3 hrs.), Sociology 1 (3 hrs.), and Engineering 100 (3 hrs.).

Students who do not offer two years of Latin for entrance to the freshmen class in the College of Arts and Sciences must satisfy this requirement during the period of pre-legal study.

SPECIAL STUDENTS.

In rare instances persons who cannot qualify as candidates for the degree of Bachelor of Laws may be admitted as special students on petition to the Committee on Entrance, approved by the faculty of the College of Law. The applicant must show that he is more than 22 years of age, that he is unable to pursue such studies as will qualify him for admission as a regular student, that he possesses such educational training and practical experience as should enable him to pursue the study of law satisfactorily, and that he has satisfied the academic requirements specified by the order of the Supreme Court of Appeals, passed May 6, 1915, as preliminary to law study

for all persons seeking admission to the bar in West Virginia. (See page 246). Permission to enter as a special student will be granted only in exceptional cases and will be subject to termination for unsatisfactory scholarship or conduct.

Special students may be admitted to the West Virginia bar only after having passed the state bar examination.

STUDENTS IN OTHER COLLEGES.

Students of at least junior standing in other colleges of the University may be permitted to take work in the College of Law subject to the regulations of the College where they are registered and of the College of Law, but conditioned in each case upon the consent of the instructor giving the course which such student desires to take.

ADMISSION TO COMBINED COURSE.

A student may secure the degree of Bachelor of Arts and Bachelor of Laws in six years under the following regulation of the College of Arts and Sciences.

Any candidate for the A. B. degree, who, at the end of the junior year has completed 96 semester hours and who has satisfied all other requirements of the College of Arts and Sciences for this degree, may in his senior year take the full first year of the law course, and upon completion of the same shall be entitled to receive the degree of Bachelor of Arts. But if a student has to his credit 92 semester hours at the end of his junior year, he may, subject to the approval of the dean of the College of Arts and Sciences and the dean of the College of Law, be allowed to enter upon the first year of the work of the law course, in which case the degree shall be withheld until he attain four additional credit hours. Such cases, however, shall be treated as exceptions and the student is urged to complete the entire 96 hours of required work in the College of Arts and Sciences before beginning the study of law. No student may substitute the first year of law as above provided, who shall have failed to maintain a uniform record of good scholarship to the end of his junior year in the College of Arts and Sciences.

No work included in the above 96 credits and counted toward the A.B. degree may be again counted toward the LL.B. degree.

ADMISSION TO ADVANCED STANDING.

Applicants for admission to advanced standing must satisfy the following requirements:

1. Compliance with the requirements for admission to the first year class.

2. For admission to the second year class, applicants must have successfully pursued the study of law for at least one year in an approved law school, where they have received credit for courses equivalent to those required for admission to the second year class in the College of Law.

3. For admission to the third year class, applicants must have successfully pursued the study of law for at least two years in an approved law school where they have received credit for courses equivalent to those required for admission to the third year class in the College of Law.

No credit will be given for work done in a law office.

No student may receive the degree of Bachelor of Laws without at least one year's residence in the University and the successful passing of courses aggregating twenty-eight semester hours pursued in the College of Law.

Any applicant for advanced standing may also, in the discretion of the law faculty, be required to undergo an examination in any or all of the subjects presented for advanced standing.

REQUIREMENTS FOR DEGREES.

BACHELOR OF LAWS.

Students who have satisfied the preparatory and college requirements for entrance to the College of Law as candidates for the degree of Bachelor of Laws, and who have satisfactorily completed courses aggregating eighty-six hours, distributed over three years residence and who have otherwise satisfied the requirements of the University and of the College of Law, will be granted the degree of Bachelor of Laws.

The eighty-six hours offered by a student for the degree of Bachelor of Laws must include the following courses: Contracts, Personal property, Agency, Torts, Actions, Common law pleading, Criminal law and procedure, Real property I, Real property II, Evidence,, Equity jurisdiction I, Practice and procedure, and Practice court.

Such students as may be required to take military science after enrolling in the College of Law will be permitted to substitute two hours' credit in military science for two hours of law.

ADMISSION TO THE BAR.

Under the provisions of ch. 119, sec. 1, of the West Virginia Code, those who receive the degree of Bachelor of Laws from the West Virginia University may be admitted to the bar without further examination.

Bar Examinations.

All persons seeking admission to the West Virginia bar, except those who hold the degree of Bachelor of Laws from West Virginia University, are required to take and pass the state bar examination.

The bar examinations are held at Charleston on the second Wednesday and Thursday of March and of September.

An order of the Supreme Court of Appeals entered May 6, 1915 provides that persons applying for license to practice law in West Virginia must satisfy the following requirements as to period of study and degree of preparation:

"(a) A preliminary academic education equivalent to that required for graduation from a high school of the first class in West Virginia, which may be evidenced by a diploma of graduation from such a high school or by a certificate showing equivalent credits from any other school whose credits would be accepted for admission to West Virginia University, or by passing an examination on equivalent subjects.

"(b) Three years of diligent law study as a student in the office of and under the direction of, a member of the bar of this State (or another state), or as a resident student in an approved law school, evidenced by a certificate to the State Board of Law Examiners by the attorney under whom, or the head of the law school at which, such study was pursued, showing in detail the work done. In interpreting the above requirement, not less than ten months, exclusive of vacations, shall constitute one year of office study, and not less than eight months, exclusive of vacations, shall constitute one year of law school study."

Information as to bar examinations and as to other matters relating to admission to the bar may be obtained upon inquiry directed to the Secretary, State Board of Law Examiners, Charleston, W. Va.

WEST VIRGINIA LAW QUARTERLY.

The West Virginia Law Quarterly is published by the faculty of the College of Law and appears in November, January, April and June. It is the official publication of The West Virginia Bar Association.

PRIZES.

Awards for prizes in the University are made in accordance with the following rules:

No composition, in whole or in part, shall be submitted in competition for two prizes.

Only students pursuing courses leading to baccalaureate degrees are eligible for any prize offered.

No student shall be eligible to enter any contest who has not been a resident student in this University for at least one semester preceding the semester in which the contest is to be held, and who is not a resident student in good standing in the University in the semester in which the contest is held.

No successful contestant may become for a second time a competitor for the same prize.

If in any contest the judges find no manuscript of sufficient merit, there shall be no award of that prize for that year.

Students intending to compete in any essay-writing contest must notify the chairman of the Committee on Prizes not later than March 15. Three typewritten copies of each essay must be in the hands of the chairman of the committee not later than May 15.

The conditions upon which the awards in the several contests are made may be learned upon application the President's office, or to to the members of the Committee on Prizes.

The following University prizes are of peculiar interest to law students:

The Bryan Prize in Political Science.

The Hon. William J. Bryan has given a sum of money, the income of which is offered as a prize for the best essay on some subject in the science of government. The amount of this prize is $15.00.

The Tax Commission Prize.

The members of the State Tax Commission of 1902, W. P. Hubbard, Henry G. Davis, John K. Thompson, L. J. Williams and J. H. Holt, have given the sum of $1,350, the income of which is to be used annually as a prize for the "best original work bearing on matters of taxation in West Virginia." The conditions of competition are determined by the Council of Administration. The amount of the prize at present is $70.00.

The James F. Brown Prize.

In 1919 Mr. James F. Brown, of the Class of 1873, gave $5,000.00 to the University, the proceeds to be invested by it and the income used as a prize for the best essay each year on the subject concerning the privileges and immunities of citizens guaranteed by the federal or state constitutions.

Students in the senior class and within one year after graduation are eligible to compete.

UNIVERSITY FEES AND EXPENSES.

Students in the College of Law who are not state cadets are charged:

A tuition of $15.00 a semester or $25.00 a year if residents of West Virginia, and $30.00 a semester or $50.00 a year if non-residents.

A matriculation fee of $5.00 payable upon entering the University.

A diploma fee of $5.00 payable at the beginning of the semester in which the student expects to receive his degree.

A fee of $2.00 each semester is charged for registration and the issuance of class cards. This fee is remitted to all students who procure class cards during the first three days of the first semester, and the first two days of the second semester.

All students in the College of Law are also charged:

An athletic fee of $2.50 per semester.

A medical fee of $2.00 per semester.

Refunding of Tuition and Fees.

Students who withdraw from the University for good and sufficient reasons during the first two weeks of the semester, will have their tuition refunded upon making application to the registrar, but matriculation, contingent, athletic and registration fees will not be refunded.

Students who have paid tuition for the year and who for any reason cannot attend during the second semester, may have the excess paid above the amount of one semester's tuition refunded, upon application.

Students who receive appointment as state cadets after the payment of tuition and fees, but before the first nine weeks of the semester have elapsed, may have refunded to them all tuition and fees not properly chargeable to state cadets.

COST OF A YEAR'S WORK.

Board and lodging may be obtained in Morgantown for from $8.00 to $10.00 a week. Furnished rooms may be obtained at from $2.00 to $3.00 a week with two in a room. Board in private families or in students' boarding clubs costs from $6.00 to $7.00 a week. A student's washing will cost usually from $25.00 to $35.00 a year, his text-books from $10.00 to $35.00 a year, and his contingent and athletic fees $15.00 to $35.00 a year. To these fixed charges must also be added matriculation, tuition, diploma, and laboratory fees, in the case of students who are required to pay them. Traveling expenses, clothing, and miscellaneous expenses will depend largely upon the tastes and habits of the individual. In general it may be said that the legitimate cost of a nine months' term of residence at the University ranges from $450.00 to $600.00, exclusive of traveling expenses.

Text-books are kept for sale in the University book store. A book exchange is maintained by the College of Law where second-hand law books may be sold or bought without any commission being charged.

State cadets are furnished their stationery and text-books to the value of $10.00.

COURSES AND EXAMINATIONS.

COURSES.

All courses extend either throughout the entire year or through one semester. No credit will be given for less than an entire course except by special order of the law faculty. Grades given at the end of the first semester in courses extending throughout the year are merely indicative of the quality of work done by the student to that point and do not give credit for the part of the course so far pursuel. Such first semester grade may be considered in determining the final grade. Any student who fails in the first semester's work in any such course will not be permitted to continue that course.

EXAMINATIONS.

Students are required to take all regular examinations. No student who absents himself from any such examination without being excused therefrom by the faculty of the College of Law, will receive credit unless he repeats the course successfully. If absence from a final examination is granted by the faculty. the student's grade in that course will be withheld until he has passed the next examination for the removal of conditions in the course. Application for leave to be absent from a regular examination must be made before the hour at which such examination closes.

Regular Examinations are held at the end of each semester in all courses. The period devoted to such examinations and the length of time of each examination are determined by the faculty of the College of Law.

Examinations for Removal of Conditions are held during the seven days immediately following the day for mid-semester reports in the second semester and the seven days immediately following the opening of the University in the fall. No other special examinations are given.

GRADES.

Reports of students' grades are made at the end of each semester. If such grade be reported at the end of the course, it is the student's grade for the course; if at the end of the first semester in a course extending throughout the year, it is merely indicative of the quality of the student's work that far in the course.

In determining grades the instructor gives such weight as he deems best to examinations, daily recitations, and attendance. He may refuse examination to any student because of poor attendance. One per cent. is deducted by the Registrar from the grade reported

by the instructor for each unexcused absence in the course during the semester for which the grade is given.

The privilege of final examination is denied a student absent, for any cause, from 20% of the class periods of a course, or from 25% of the class periods of the last semester of a course running through the year. The privilege of mid-year examination is denied a student absent, for any cause, from 25% of the class periods of the first semester, in a course running through the year, and he will be requested to drop the course. The operation of this rule may be suspended by the law faculty in cases where substantially all of the absences were unavoidable, but in all such cases the time lost must be made up by attendance at an approved law school before the student will be recommended for a degree or before his attendance will be certified to another law school.

Students who fail in any course are given no credit for it.

A student who is conditioned in any course will receive no credit for it unless he pass the next examination for removal of conditions in that subject, provided, however, that the faculty may require a student to complete certain supplementary work in lieu of such examination or in addition thereto.

The law faculty may warn any student whose work is deemed unsatisfactory, place him on probation, or refuse his re-registration in the College of Law.

METHOD OF INSTRUCTION.

The work of the students is based chiefly upon the study and discussion of decided cases, with collateral reading of statutes, approved text-books and periodicals, elucidated by free discussion in the class.

COURSES IN PRACTICE AND PROCEDURE.

Practice and Procedure. Instruction in practice and procedure is preparatory and supplementary to the work of the practice court, and is conducted by text-book, lectures and special study of the statutes and decisions governing West Virginia practice and procedure. Attention is given to the jurisdiction and functions of the Supreme Court of Appeals, the Circuit, County and inferior Courts, and the powers, duties, and liabilities of attorneys at law as officers of the court. Incidental consideration is also given to the canons of professional ethics adopted by the American Bar Association and the West Virginia Bar Association. The statutes and decisions governing the purpose and use of special legal and equitable remedies, such as attachment, garnishment, statutory motions, injunctions, etc., receive careful attention. Attention is also given to the procedural phases of the extraordinary legal remedies, such as mandamus, habeas corpus, certiorari, quo warranto, prohibition, etc.

Practice Court. The practice court exercises original jurisdiction in law, equity, criminal, and probate cases, and appellate jurisdiction in appeals from inferior tribunals.

Every third-year student, before receiving the bachelor's degree is required to prepare the pleadings and prosecute to judgment the required number of cases in the practice court. The equivalent of at least five hours in each week during the second semester must be spent by each third-year student in participation in practice court work in the court room.

Statements of facts are furnished, such as would be related to a lawyer in active practice by his client. Each student must determine whether or not upon such facts the particular case in hand is one of common law, equity, criminal or probate cognizance. He must then frame his pleadings, serve his summons or notice, and answer his adversary's pleadings until issue is joined in legal manner, after which the case is brought on for hearing in strict accordance with settled legal procedure, witnesses are examined and cross-examined, and the case is conducted through all the various stages of the trial or hearing down to and including the judment, decree or sentence, after which, should the case be appealed, it must be carried through the Supreme Court, involving the preparation of the record on appeal, briefs of counsel, etc.

The clerk and his assistant are chosen from the student body, from whose ranks are also drawn the sheriff, jurors, and other officials, thus giving to the students the benefits of practice in administrative judicial machinery. The sessions are presided over by that member of the law faculty who has charge of practice courses and by circuit judges especially chosen for the work.

Drafting of Legal Instruments. Students are instructed in this course in the actual preparation of deeds, mortgages, wills, abstracts and opinions of title, assignments, contracts, partnership agreements, and other legal instruments which a lawyer is called upon to prepare. Statements of facts are furnished to the class by the instructor in charge and each stulent is required to prepare the various forms of instruments. These are corrected by the instructor and are discussed and criticized in class. Careful consideration is given to special forms of execution and acknowledgment when one of the parties is a corporation, a partnership, a married woman, or the like.

Drafting of Pleadings. This work complements the course in the principles of common law pleading by giving the student practical knowledge and experience through the drafting of the pleading themselves. Statements of facts such as a client might relate to an attorney are furnished to the student on which he is required to draft declarations, pleas, replications, etc. Instruction of a similar nature is given in connection with the course in Equity Practice and Procedure.

COURSES OF INSTRUCTION.

The curriculum leading to the degree of Bachelor of Laws covers a period of three academic years. The work of the first year is prescribed. All of the studies of the second year are elective except Common Law Pleading, Evidence, Real property II, and Equity jurisdiction I, and all of the third year courses except Practice and procedure and Practice Court. Second year courses may be elected by third year students, but third year courses will not in general be open to second year students. A few subjects that are given only in alternate years may be elected by both second and third year students. All required courses are marked by an asterisk.

It is expected that each student will carry fourteen hours of class room work per week during the first and second years and fifteen during the third year. Not less than thirteen nor more than sixteen hours may be carried without the special consent of the law faculty.

PROGRAM OF COURSES FOR 1920-21.

First Year.

***Actions.** (2 Hrs.) Two hours a week in the first semester. Sunderland, Cases on Common Law Pleading and required readings. Associate Professor CARLIN.

***Agency.** (4 Hrs.) Four hours a week in the second semester. Wambaugh, Cases on Agency. Professor HARDMAN.

***Contracts.** (6 Hrs.) Four hours a week in the first semester and two hours a week in the second semester. Williston, Cases on Contracts. Assistant Professor _____.

***Criminal Law and Procedure.** (4 Hrs.) Four hours a week in the first semester. Mikell, Cases on Criminal Law and Criminal Procedure. Professor J. R. TROTTER.

***Personal Property.** (2 Hrs.) Two hours a week in the first semester. Bigelow, Cases on Personal Property. Professor SIMONTON.

***Persons and Domestic Relations.** (2 Hrs.) Two hours a week in the second semester. Smith, Cases on Persons. Assistant Professor

***Real Property I.** (2 Hrs.) Two hours a week in the second semester. Bigelow, Cases on Property, vol. 2. Professor SIMONTON.

***Torts.** (6 Hrs.) Two hours a week in the first semester and four hours a week in the second semester. Case book to be selected. Professor H. C. JONES.

Second Year.

***Common Law Pleading and Drafting of Pleadings.** (4 Hrs.) Four hours a week in the second semester. Sunderland, Cases on Common Law Pleading. Associate Professor CARLIN.

[**Damages.** (2 Hrs.) Two hours a week for one semester. Beale, Cases on Damages, (2d ed.) Omitted in 1920-21 and in alternate years thereafter. Professor J. R. TROTTER.]

***Equity Jurisdiction I.** (4 Hrs.) Two hours in a week throughout the year. Ames, Cases on Equity Jurisdiction, vol 1. Professor H. C. JONES.

***Evidence.** (5 Hrs.) Five hours a week in the first semester. Thayer, Cases on Evidence, (2d ed.). Professor HARDMAN.

[**Insurance.** (2 Hrs.) Two hours a week for one semester. Wambaugh, Cases on Insurance. Omitted in 1920-21 and in alternate years thereafter. Professor J. R. TROTTER.]

Legal Ethics. (2 Hrs.) Two hours a week in the first semester. Costigan, Cases on Legal Ethics. Given in 1920-21 and in alternate years thereafter. Assistant Professor CARLIN.

Negotiable Instruments. (3 Hrs.) Three hours a week in the first semester. Smith and Moore, Cases on Bills and Notes. Professor HARDMAN.

***Real Property II.** (4 Hrs.) Four hours a week in the first semester. Warren, Cases on Property, and Gray, Cases on Property, vol. 3 (2d ed.). Professor SIMONTON.

Sales of Personal Property. (4 Hrs.) Four hours a week in the second semester. Woodward, Cases on Sales. Professor J. R. TROTTER.

Trusts. (3 Hrs.) Three hours a week in the first semester. Scott, Cases on Trusts. Assistant Professor _____.

[**Wills and Administration.** (2 Hrs.) Two hours a week for one semester. Warren, Cases on Wills and Administration. Omitted in 1920-21. Professor J. R. TROTTER.]

Third Year.

[**Bankruptcy.** (2 Hrs.) Two hours a week for one semester. Williston, Cases on Bankruptcy (2d ed.). Omitted in 1920-21 and in alternate years thereafter.]

Conflict of Laws. (3 Hrs.) Three hours a week in the second semester. Beale, Cases on Conflict of Laws, (shorter selection). Assistant Professor ----------.

Constitutional Law. (4 Hrs.) Four hours a week in the first semester. Wambaugh, Cases on Constitutional Law. Professor H. C. JONES.

Drafting of Legal Instruments. (1 Hr.) One hour a week in the second semester. See page 251 for information as to the work in this course. Associate Professor CARLIN.

Equity Jurisdiction II. (2 Hrs.) Two hours a week in the second semester. Ames, Cases on Equity Jurisdiction, vols. 1 and 2 (parts). Professor H. C. JONES.

[**Equity Jurisdiction III.** (Including Quasi Contracts.) (2 Hrs.) Two hours a week for one semester. Ames, Cases on Equity Jurisdiction, vol. 2 (part), and Woodruff's Cases on Quasi Contracts. Omitted in 1920-21 and alternate years thereafter.]

[**Equity Pleading and Practice.** (2 Hrs.) Two hours a week for one semester. Selected cases. Omitted in 1920-21. Associate Professor CARLIN.]

Mining Law. (2 Hrs.) Two hours a week in the second semester. Selected cases on rights in coal, oil and gas. Professor SIMONTON.

Municipal Corporations. (2 Hrs.) Two hours a week in the first semester. Beale, Cases on Municipal Corporations. Given in 1920-21 and in alternate years thereafter. Professor SIMONTON.

Partnership. (4 Hrs.) Four hours a week in the second semester. Gilmore, Cases on Partnership. Given in 1920-21 and in alternate years thereafter. Professor J. R. TROTTER.

***Practice and Procedure.** (4 Hrs.) Four hours a week in the first semester. Munson, Elementary Practice, selected cases, statutes, and lectures. See page 251 for information as to work in this course. Associate Professor CARLIN.

***Practice Court.** (3 Hrs.) Court sessions and lecture periods in the second semester as specified by the faculty. See page 251 for information as to work of the practice court. Associate Professor CARLIN and circuit judges.

Private Corporations. (4 Hrs.) Four hours a week in the first semester. Warren, Cases on Private Corporations, (2d ed.). Professor J. R. TROTTER.

Public Speaking 14: Argumentation and Debate. (2 Hrs.) Two hours a week in the first semester. See page 120, for information as to work in this course. Professor KAY.

Public Speaking 15: Advanced Argumentation and Debate. (2 Hrs. Two hours a week in the second semester. See page 120, for information as to work in this course. Professor KAY.

Public Utilities. (4 Hrs.) Four hours a week in the second semester. Case book to be selected. Professor HARDMAN.

Real Property III. (4 Hrs.) Four hours a week in the second semester. Kales, Cases on Future Interests. Professor SIMONTON.

[**Suretyship.** (2 Hrs.) Two hours a week for one semester. Ames, Cases on Suretyship. Omitted in 1920-21 and in alternate years thereafter. Professor H. C. JONES.]

THE SCHOOL OF MEDICINE

THE FACULTY.

FRANK BUTLER TROTTER, A.M., LL.D., *President of the University*

JOHN NATHAN SIMPSON, A.B., M.D., *Dean and Professor of Physiology*

AARON ARKIN, M.D., PH.D., *Professor of Pathology and Bacteriology*

SAMUEL JOHN MORRIS, M.D., *Associate Professor of Anatomy*

WITHROW MORSE, PH.D., *Associate Professor of Physiological Chemistry and Physiology; Secretary of the Faculty*

MARTIN LOXLEY BONAR, M.S., M.D., *Associate Professor of Pharmacology*

GORDON ALGER BERGY, PH.C., M.S., *Assistant Professor of Pharmacy*

GIDEON S. DODDS, PH.D., *Assistant Professor of Histology and Embryology*

ROBERT WALDORF FISHER, M.D., *Instructor in Physical Diagnosis*

IRVIN HARDY, M.S., M.D., *Instructor in Minor Surgery*

J. LESTER HAYMAN, PH.C., B.SC., *Instructor in Pharmacy*

CHARLES M. BRAY, M.D., *Instructor in Practical Physical Diagnosis*

HELEN M. WIESTLING, A.B., *Assistant in Pharmacology and Physiological Chemistry*

FRANK M. TRUMP, B.S., *Assistant in Bacteriology and Pathology*

INSTRUCTION IN MEDICINE.

Regular instruction in subjects preparatory to the study of medicine was first given in West Virginia University in 1871, the "chair of anatomy, physiology, and hygiene," having been established in that year. A curriculum covering the first two years of a standard four years' medical course was provided in 1902 and the work was placed in charge of the College of Medicine with a resident faculty of six men. In 1912 the College of Medicine became the School of Medicine. In reorganizing the work in medicine the Board of Regents retained the general character of the curriculum previously offered but provided for a larger faculty, more laboratories and more adequate equipment.

As at present constituted the West Virginia University School of Medicine has its own dean and faculty but confers no degrees in medicine. It is not affiliated with any other college or school of medicine and its students may go where they like to complete their medical studies and receive the degree of M.D.

The School of Medicine is a member of the American Association of Medical Colleges (Class A).

The work in physical diagnosis and in minor surgery is in charge of practicing physicians, members of the local medical profession.

THE MEDICAL BUILDING.

A three story brick building furnishes room for the classes in medicine and pharmacy.

On the first floor are found the offices of the dean, the physiological and pharmacological laboratories, the medical and pharmaceutical dispensaries, and the medical library. On the second floor are the laboratories of bacteriology and pathology, and two laboratories for physiological chemistry. The third floor has a very large laboratory for gross anatomy, one for histology, and one for pharmacy. Each laboratory is provided with an abundance of light. There is an incineratory plant for the disposal of refuse.

A suitable building, conveniently located to the School of Medicine, is provided for the housing of animals used in experimental work. A well-lighted room on the upper floor is used exclusively for operative surgery.

MEDICAL DISPENSARY.

A dispensary open to the city poor is conducted by the physicians of the medical faculty. Free service is rendered. The treating of patients is done by the faculty but students of the second year class are instructed in the proper methods of examining and diagnosing disease. This work supplements the courses in physical diagnosis and minor surgery.

In return for the medical fee paid by all male students free service is rendered to students by the faculty and drugs are supplied free from the pharmaceutical dispensary.

LABORATORIES.

ANATOMICAL LABORATORY.

The anatomical laboratory is equipped with a Balopticon for doing projective work, a complete set of imported models of the brain and nervous system, eye, ear, thoracic and abdominal viscera, joints and muscles. There are frozen sections of the body for use in the study of regional anatomy. Each student in gross anatomy has the use of a complete skeleton and each student in histology is provided with a microscope.

PATHOLOGICAL LABORATORY.

The pathological laboratory is equipped with all necessary apparatus for general and special work, including paraffine and celloidin microtomes, freezing microtomes, paraffine ovens, microscopes with oil immersion lenses, all necessary stains and chemicals. There is also a projection apparatus with microscope attachment for demonstration purposes. The department possesses a large collection of mounted microscopic sections representing all the pathological processes, and a museum of gross specimens. Surgical material is obtained from the city hospital.

LABORATORY OF MEDICAL BACTERIOLOGY.

The bacteriological laboratory is equipped with all necessary apparatus, such as sterilizers, incubators, glassware, etc. Each student has the use of a microscope with oil immersion lens. Special apparatus for bacteriological examination of air, water, milk, and blood is supplied to each student. Material for laboratory work in bacteriological diagnosis, such as Widal tests for typhoid, examination of sputum for tubercle baccilli, bacteriological examination of water, etc., is available.

PHYSIOLOGICAL AND CHEMICAL LABORATORIES.

The laboratory devoted to the work in physiology is supplied with tables, each accommodating two students who work together. Each table has a complete set of Havard physiological apparatus which is lent to the student with a charge for breakage only. There are for general use kymographs, apparatus for work in blood pressure and blood counting, hemaglobinometers, charts and models.

The physiological chemistry laboratory is large and well-equipped. There is a stock room and a laboratory for research in connection with it.

PHARMACOLOGICAL LABORATORY.

The pharmacological laboratory is equipped with chemical desks, operating tables, and electrical kymograph and respiration apparatus for taking continuous records of respiration and blood pressure. Special animal cages are provided to meet the needs of courses 41 to 47 inclusive. In addition, a special animal house for the proper care of experimental material is provided. Aside from the general equipment of the laboratory, each group of two students is provided with individual sets of apparatus and reagents. The laboratory is also provided with a collection of crude drugs, alkaloids, glucosides, and analytical chemicals.

The chemical, botanical, and zoological laboratories of the University are also open to students in the School of Medicine.

LIBRARY AND READING ROOM.

The medical library consists of over 3200 bound volumes and many unbound journals and reprints. There is a good collection of works on chemistry, anatomy, physiology, pharmacy, zoology, botany, pathology, bacteriology, pharmacology, medicine, and surgery. There are bound volumes of the leading scientific journals as well as some of the leading German, French and American journals devoted to the laboratory side of medicine. The general library is in close proximity to the medical laboratories and is open all day and till ten o'clock at night.

MEDICAL LABORATORY FEES.

Students in laboratory courses pay special fees to cover the cost of materials used. These fees in the courses required of medical students are as follows:

Gross Anatomy 13, 14 and 17	$12.00
Histology 12	5.00
Bacteriology 3	5.00
Pathology 21 and 22	8.00
Chemistry 10	12.00
Embryology 6	3.00
Pharmacology 40 and 41	7.50
Physiology 4 and 5	7.50
Neurology 6	2.00
Minor Surgery	1.00
Total for two year course	$63.00

ADMISSION TO THE COURSE IN MEDICINE.

SECONDARY SCHOOL CREDITS.

For admission to the course in medicine the student must have credit for fifteen units of secondary school work, i. e., the work of a standard four-year high school.[1]

A. The following groups are required:
   (1) Four units of English.
   (2) Three units in one other subject.
   (3) Two units in a third subject.
   (4) Two units in a fourth subject.
   (5) Four units elective.

B. In addition to the four units of English the work indicated in (A) must include: two units of Latin, one unit of history, one unit of algebra, and one unit of plane geometry.

C. Work in the following subjects not to exceed the number of units placed after each subject will be accepted:

English	4 units
Foreign languages[2]	
Latin	4 units
Greek	3 units
French	3 units
German	3 units
Spanish	2 units
Italian	2 units
Mathematics	
Algebra	1½ units
Plane geometry	1 unit
Solid geometry	½ uit
Trigonometry	½ unit
History and economics	
History	3 units
Civics	1 unit
Elementary economics and sociology	1 unit
Education	2 units
Drawing	
Free-hand drawing	1 unit
Mechanical drawing	1 unit
Science[3]	
Physics	1 unit
Chemistry	1 unit
Biology	1 unit
Botany	1 unit
Geology	1 unit
Zoology	1 unit
General science	1 unit
Physical geography	1 unit
Physiology	1 unit
Hygiene and sanitation	1 unit
Vocational subjects (not to exceed four units in all.)	
Agriculture	3 units
Household arts	3 units
Manual training	3 units
Bookkeeping or bookkeeping and commercial arithmetic	2 units
Shorthand and typewriting	2 units
Commercial geography	½ unit
Commercial law	½ unit
Music:—violin, organ or piano	2 units

[1] These admission requirements are effective from May 1, 1919, but graduates from high schools in 1919, 1920, or 1921 may if they prefer enter under the requirements as stated in the University catalogue for 1918-19.

[2] Not less than two units of one foreign language will be accepted for entrance.

[3] A group of two units in science may be made by combining one unit each of physics and chemistry or one unit each of any two of the following: biology, botany, zoology, geology. A group of three units in science may be made by combining one unit each of any three of the following: physics, chemistry, biology, botany, zoology, geology.

COLLEGE CREDITS.

In addition to the fifteen units of secondary school credit as listed on the preceding page, the student must have credit for sixty-four hours work done either in the College of Arts and Sciences of West Virginia University or in another institution of equal grade.

In accordance with the regulations of the American Medical Association and the Association of American Medical Colleges a schedule covering two years of premedical college work has been laid down as shown on pages 264 and 265.

CONDITIONAL ADMISSION.

Under no circumstances will students be admitted to the course in medicine without having completed fifteen units of secondary school work and sixty hours of college work including the subjects marked with an asterisk in the schedule, which are required by the medical association; but students who lack the remaining four hours of college work may be admitted to the course conditionally and may find opportunity to remove the condition in the Summer School or elsewhere before the completion of their two years in the School of Medicine.

FILING OF HIGH SCHOOL CERTIFICATES.

By a resolution of the State Board of Health all applicants for license to practice medicine in West Virginia are required to file with the secretary of the Board their certificate of high school graduation or its equivalent. The secretary will investigate doubtful cases, asking the aid when necessary of the University Committee on Classification and Grades.

THE COMBINED B. S. AND M. D. COURSE.

A student who desires to prepare himself for the practice of medicine and who has satisfied the requirements for entrance to the freshman class of the College of Arts and Sciences may matriculate in the College of Arts and Sciences and announce his intention of taking a combined scientific and medical course. After removing all entrance conditions and completing sixty-four hours (two years) of work in this college he may enter upon the two years course of the School of Medicine. On the completion of the course of this School he will receive the degree of Bachelor of Science. He may then enter a standard medical college, complete its course and receive the degree of Doctor of Medicine. His college and medical course together will in this case usually occupy six years.

The courses required in the College of Arts and Sciences and in the School of Medicine are indicated in the following schedule:

Courses in the College of Arts and Scences.

First Year—First Semester.			First Year—Second Semester.		
*English 1	3		*English 2	3	
English 26[1]	2		English 27[1]	2	
*Chemistry 1	4		*Chemistry 2	4	
*Zoology 1	4		*Zoology 2	4	
German or French[2]	3		German or French[2]	3	
Military science	1	17	Military science	1	17

Second Year—First Semester.			Second Year—Second Semester.		
*Physics 1	3		*Physics 3	3	
*Physics 2	1		*Physics 4	1	
*Chemistry 18	5		Philosophy 12	3	
Elective	5		Chemistry 9	5	
Military science	1	15	Elective	2	
			Military science	1	15

Courses in the School of Medicine.

Third Year—First Semester.			
Physiological chemistry 10	8:00 T. Th., 11:00 W., 9:00-12:00 M. F.	5	
Histology 12	8:00 M., 8:00-11:00 W., 9:00-12:00 T. Th.	5	
Anatomy 13	2:00-5:00 daily	7	
Military science		1	18

* Required subject. See page 263.

[1] English 26 and 27 may be postponed until the second year with the class officer's consent.

[2] If a student has offered two years of French or German for entrance, six hours of college work in the same language will satisfy the requirement, otherwise ten hours in the subject.

Third Year—Second Semester.

Bacteriology 3	2:00 T. Th., 8:00 S.; lab. 8:00 10:00 daily (first twelve weeks)	5	
Neurology 15	8:00-10:00 daily, 2:00 T. Th. (last six weeks)	2	
Embryology 6	10:00-12:00 M. Th.; 11:00 T. W.	3	
Anatomy 14	3:00-5:00 M. W. F., 9:00-12:00 S.	3	
Physiology 2	2:00 M. W. F.	3	
Physiology 4	3:00-5:00 T. Th. 9 weeks	1	
Pharmacology 40	3:00-5:30 T. Th., 9 weeks	1	
Military science		1	19

Fourth Year—First Semester.

Pathology 21	8:00 M. W. F.; lab., 2:00-5:00 M. W. F.	6	
Pharmacology 42	8:00 T. Th. S.	3	
Physiology 3	9:00 daily	5	
Physical diagnosis 31	10:00 M. Th. F.	2	
Physiology 5	2:00-5:00 T. Th.	2	
Military science		1	19

Fourth Year—Second Semester.

Pharmacology 43	8:00 M. W. F.	3	
Hygiene 5	8:00 T. Th.	2	
Minor surgery 51	9:00 M. W. F.	3	
Pathology 22	11:00 W.; lab., 10:00-12:00 T. Th.	3	
Anatomy 17	2:00-5:00 T. Th.	2	
Operative surgery 52	9:00 S.	1	
Pharmacology 41	2:00-5:30 M. F.	2	
Military science		1	17

Fifth and Sixth Years.

To be taken at an approved School of College of Medicine.

NOTE.—Medical students must take their work in sequence as shown in the schedule. If they fail in a course they may go on in the following year but the course must be taken again at the first opportunity.

COURSES OF INSTRUCTION.

ANATOMY.

Associate professor S. J. MORRIS and Assistant Professor DODDS.

A study of osteology and articulations is carried on in connection with the dissection of the cadaver. The cadaver is divided into three parts for the purpose of dissection; the head, including the thoracic viscera, the arm, and the leg including the abdominal and pelvic viscera. The work in gross anatomy is largely practical and is given almost entirely in the dissection room. Practical quizzes upon parts dissected are held at short intervals.

13 Dissection. (7 Hrs.) Required of all first year medical students. A careful dissection of muscles, nerves, blood-vessels, and different organs of the body in situ. Lectures and recitations (75 hours) and laboratory (210 hours). Laboratory fee, $5.00.

First semester; 2:00-5:00; Associate Professor S J. MORRIS.

14. Dissection. (3 Hrs.) Required of all first year medical students. A continuation of course 13. Lectures (54 hours) and laboratory (108 hours). Laboratory fee, $5.00.

Second semester; M. W. F.. 3:00-5:00; S. 9:00-12:00; Associate Professor S. J. MORRIS.

12. Histology. (5 Hrs.) Required of first year medical students and prerequisite for courses in pathology. The work includes the study of cells, tissues, and organs, with the instruction in the ordinary methods of preparing tissues for microscopic examination. Lectures and quizzes. Laboratory fee, $5.00. Lectures, 36 hours; laboratory 126 hours.

First semester; M., 8:00, W., 8:00-10:00, Th. 9:00-12:00; Assistant Professor DODDS.

15. Neurology. (2 Hrs.) Required of all first-year medical students. A gross and miscroscopic study of the central nervous system. Lectures, 36 hours; laboratory, 36 hours. Laboratory fee, $2.00.

Second semester (last six weeks); T. Th., 2:00; laboratory, daily, 8:00-10:00; Associate Professor S. J. MORRIS.

17. Applied Anatomy. (2 Hrs.) Required of all second-year medical students. Topographical and applied anatomy of the entire body, including the cavities and viscera. Lectures, quizzes and demonstrations by use of models, special dissections and cross-sections. Lectures, 30 hours; laboratory, 72 hours. Laboratory fee, $2.00.

Second semester; T. Th., 2:00-5:00; Associate Professor S. J. MORRIS.

18. Advanced Histology. (2 Hrs.) Open to advanced and graduate students. More intensive study of some systems of organs and application of special methods. Includes laboratory work and study of current literature on the subject studied.

Hours to be arranged.

6. Human Embryology. (3 Hrs.) Required of first year medical students. The development of the human body is taught by means of studies on preparations of chick and pig embryos and models. Lectures 36 hours; laboratory, 72 hours. Laboratory fee, $3.00.

Second semester; M. Th., 10:00-12:00; T. W., 11:00; Assistant Professor DODDS.

19. Advanced Embryology. (2 Hrs.) Open to advanced and graduate students. Special study of some phase of development, the subject matter to be chosen with special reference to the interests of the students who may elect the course.

Hours to be arranged; Assistant Professor DODDS.

BACTERIOLOGY AND PATHOLOGY.

Professor ARKIN and MR. TRUMP.

The following courses are required of all medical students: Bacteriology 3, 5 hrs.; Bacteriology 5 (Hygiene and Sanitation), 2 hrs.; Pathology 21, 6 hrs.; Pathology 22, 3 hrs.

3. Medical Bacteriology. (5 Hrs.) Required of second year medical students. Preparation of culture media, and study of pathogenic bacteria and their relation to disease; their hygienic as well as pathologic relations. Bacteriologic examination of air, water, milk, foods, sputum, blood, etc. Isolation of bacteria from unknowns. Laboratory fee, $5.00.

Second semester, (first twelve weeks); lectures, (40 hrs.) T. Th., 2:00; S., 8:00; laboratory, (120 hrs.) M. T. W. Th. F., 8:00-10:00.

4. Advanced Bacteriology. (3 Hrs.) Open to fourth year and graduate students. Advanced bacteriologic technique; methods employed in the conduct of modern research problems in bacteriology; special culture media, anaerobic cultivation, staining methods, etc.

Hours to be arranged.

5. Hygiene. (2 Hrs.) The principles of hygiene and sanitation as they pertain to the welfare of the individual, and the care of the public health; prevention of communicable diseases; heredity; eugenics; immunity; food, air and water as sources of disease; personal hygiene; school hygiene; occupational diseases; vital statistics.

Second semester; lectures (36 hrs.), M. F., 8:00.

6. Research in Bacteriology. (Credit according to work done.) Open to limited number of graduate students in medicine.

7. State and Municipal Laboratory Methods. (2 Hrs.) Open to fourth year and graduate students. The diagnosis of typhoid, diphtheria, tuberculosis, syphilis, gonorrhea, rabies, etc. and bacteriologic examination of water, milk, food, etc. Prerequisite: Bacteriology 3 or its equivalent.

Hours to be arranged.

8. Immunity. (2 Hrs.) Open to fourth year and graduate students. A study of immunity with laboratory work on animals; cytolysis, agglutination; toxins; preciptins; phagocytosis; anaphylaxis; complement fixation; and their applications to diagnosis and treatment. Prerequisite: Bacteriology 3 and Pathology 21.

Hours to be arranged.

11. Laboratory Diagnosis. (2 Hrs.) A laboratory course in chemical, miscroscopic and bacteriologic examination of urine, feces, blood, gastric contents, etc., and their pathologic and clinical significance. Prerequisite: Bacteriology 3 and Physiological Chemistry 10.

Hours to be arranged.

21. General Pathology. (6 Hrs.) Required of second year medical students. Open to graduate students. The technique of tissue preparation, staining and mounting; disturbances of circulation and nutrition; inflammations; degenerations; infiltrations; necrosis; infectious granulomas and tumors. Lectures, demonstrations, and laboratory work. Laboratory fee, $5.00. Prerequisites: physiological chemistry; histology; physiology; anatomy and bacteriology.

First semester; lectures (54 hrs.), M. W. F., 8:00; laboratory (162 hrs.) M. W. F., 2:00-5:00.

22. Pathology of Infectious Granulomas and Tumors. (3 Hrs.) Required of second year medical students. Open to graduate students. Continuation of Pathology 21. Tuberculosis, syphilis, actinomycosis, blastomycosis, etc., and the benign and malignant tumors. A study of the pathology of special organs is made. Lectures, recitations, and laboratory work. Laboratory fee, $3.00. Prerequisite: Pathology 21.

Second semester; lectures (18 hrs.), W., 11:00; laboratory (72 hrs.) T. Th., 10:00-12:00.

23. Advanced Pathology. (3 Hrs.) This course is open to a limited number of students who have credit for Pathology 21. Special technique, autopsy work, pathological physiology.

Both semesters; hours to be arranged.

24. Research in Pathology. (Credit according to work done). Open only to graduates.

25. Seminar in Pathology and Bacteriology. (1 Hr.) Review of current literature. For advanced students.

Both semesters; S., 10:00.

CHEMISTRY.

Professor CLARK, and Staff.

1. **Inorganic Chemistry.** (4 Hrs.) Required of freshmen preparing to enter the School of Medicine. For detailed anouncements see announcements of the College of Arts and Sciences. Laboratory fee $5.00.

First semester: Professor CLARK and staff.

2. **Inorganic Chemistry.** (4 Hrs.) Continuation of course 1. Laboratory fee, $5.00.

Second semester; Professor CLARK and staff.

9. **Organic Chemistry.** (5 Hrs.) Required of sophomores preparing to enter the School of Medicine. Prerequisite: Chemistry 1 and 2. Laboratory fee, $12.00.

Second semester; daily, 10:00-12:00; Professor CLARK, 23 S.

18. **Qualitative and Quantitative Analysis.** (5 Hrs.) Required of sophomores preparing to enter the School of Medicine. Laboratory fee, $12.00.

First semester; daily, 2:00-5:00; Assistant Professor HILL, 23 S.

PHARMACOLOGY.

Associate Professor BONAR and MISS WIESTLING.

40. **Pharmacology.** (1 Hr.) Required of first year medical students. This course or an equivalent is a prerequisite to all other required courses in pharmacology. Chemical tests and chemico-physical data prepare the student for the more technical information relating to incompatibility of drugs, their absorption, excretion, and fate in the tissues. Fee, $2.50.

First semester; last nine weeks, T. Th., 3:00-5:30.

42. **Systematic Pharmacology.** (3 Hrs.) Required of second year medical students. Continuation of course 40. The subject matter covered is that outlined in Cushny's textbook, along with a consideration of some of the newer and non-official remedies. Prerequisite: Physiology 2 and 4.

First semester; T. Th. S., 8:00.

41. **Pharmacodynamics.** (2 Hrs.) This course is required of second year medical students and consists of simple experiments upon cold-blooded animals, more complex experiments with the lower mammals, operative work upon cats and dogs. Laboratory fee, $5.00.

Second semester; M. F., 2:00-5:30.

43. Systematic Pharmacology. (3 Hrs.) Continuation of course 42. Required of second year medical students.

Second semester; M. W. F., 8:00.

45. Special Pharmacodynamics. (Credit according to work done.) Open to advanced students and special workers who desire training in biological assay.

Hours to be arranged; 8 W.

46. Toxicology. (2 Hrs.) A course in which the toxic action of drugs is considered from a medico-legal point of view. Practical methods of diagnosing poisoning and the mode of conducting autopsies when the tissues are to be turned over to an analyst will be demonstrated. In the laboratory, special attention is given to the chief tests for the identification of the principal alkaloids, glucosides, metallic and volatile poisons.

First semester; hours to be arranged; 8 W.

47. Chemo-Therapy. A research course open only to advanced students who have a knowledge of organic chemistry and who can read German.

Hours to be arranged.

48. Research in Pharmacology. Open to those who have special qualifications for advanced work.

Hours to be arranged.

PHYSIOLOGY AND PHYSIOLOGICAL CHEMISTRY.

Professor SIMPSON, Associate Professor MORSE and MISS WIESTLING.

6. Physiology. (5 Hrs.) Open only to pharmacy students. A study of the functions of the different organs of the body, illustrated by demonstrations of human organs and those of lower animals, with a microscopic study of the most important tissues. A study of the dissected human body is made in the anatomical laboratory. One afternoon a week is given to laboratory work. Laboratory fee, $1.00.

First semester; M. T. Th. F., 10:00; W., 2:00-5:00; Professor SIMPSON.

1. Physiology. (5 Hrs.) Intended for college students who do not care to go into the details of medical physiology. Similar to course 6, but a more advanced text is used. This course will meet the needs of teachers of public schools. Prerequisite: either physics or general chemistry. Laboratory fee, $1.00.

Second semester; M. T. Th., F., 11:00; M., 2:00-5:00; Professor SIMPSON.

2. Physiology. (3 Hrs.) Required of first year medical students. A study of the blood, the organs of circulation, vasomotor nerves, respiration, digestion, internal secretion, nutrition, heat production, and reproduction. Prerequisite: Histology 12.

Second semester; M. W. F., 2:00; Professor SIMPSON.

3. Physiology. (5 Hrs.) A study of muscle, nerve, the central nervous system, and the special senses. Prerequisite: Physiology 2 and Neurology 5.

First semester; M. T. W. Th. F., 9:00; Professor SIMPSON.

4. Physiology. (1 Hr.) Introductory laboratory course accompanying course 2. Required of all first year students in the School of Medicine and prerequisite for Pharmacology 40. Laboratory fee, $5.00.

Second semester; first nine weeks, T. Th., 3:00-5:30; Professor SIMPSON.

5. Physiology. (2 Hrs.) Required of second year medical students. This laboratory course supplements course 4, and completes 2 and 3. Each student makes complete records of each experiment. These are written up and the note books handed in at the end of the semester. The work covers blood pressure, experiments on mammals, heart control, respiration, digestion, nerve, muscle preparations and the special senses. Fee, $2.50.

First semester; T. Th., 2:00-5:00; Professor SIMPSON.

8. Bio-physics and Bio-chemistry. (2 Hrs.) Open to students in Arts and Sciences. Lectures and demonstrations covering the physics and chemistry of organisms including such topics as colloids, osmosis, diffusion, action of light, etc. Prerequisite: Physics 1 and 2, Chemistry 1 and 2, Zoology 1 or Botany 1.

Second semester; hours to be arranged; Associate Professor MORSE.

10. Physiological Chemistry. (5 Hrs.) Required of first year medical students. The chemical aspects and physical-chemical factions of physiology. The course aims to cover the principal dynamic conditions of the organism. Especial attention is devoted to metabolism and the student performs a series of experiments upon himself, involving diet, energy exchange, and excretion. While normal physiology is the principal content of the course advantage is taken of any opportunity to discuss errors in functioning such as are commouly met with in clinical medicine.

First semester; lectures, T. Th., 8:00; W., 11:00; M. F., 9:00-12:00; Associate Professor MORSE.

11. Physiological Chemistry. (3 Hrs.) Open to properly qualified students. Investigations in physiological chemistry.

Hours to be arranged; Professor SIMPSON and Associate Professor MORSE.

PHYSICAL DIAGNOSIS.

DR. FISHER and DR. BRAY.

31. Physical Diagnosis. (2 Hrs.) Required of second year medical students. An introductory course in the study of the taking of medical histories, inspection, palpation, percussion, and auscultation of patients in health and disease.

First semester; M. Th. F,. 10:00.

MINOR SURGERY.

DR. HARDY and Associate Professor MORRIS.

51. Minor Surgery and Operative Technique. (3 Hrs.) Required of second year medical students. Open to graduate students. Instruction by demonstrations and practice in the various manipulations of minor surgery, including the application of splints and bandages. Lectures and practical work in the principles of asepsis, antisepsis, and sterilization; preparation of patient and operator; dressings and care of wounds. Practical instruction of individual students in the induction of general and local anesthesia.

Second semester; M. W. F., 9:00; DR. HARDY, City Hospital.

52. Operative Surgery. A course of practical instruction in operative surgery utilizing the lower animals as subjects. Asepsis will be maintained throughout the work. A special room is assigned to this work in the animal house.

Hours to be arranged; Associate Professor MORRIS.

THE DEPARTMENT OF PHARMACY

ESTABLISHMENT OF THE DEPARTMENT.

In response to the request of the West Virginia State Pharmaceutical Association the Board of Regents in 1914 made provision for instruction in pharmacy. A department of pharmacy was established in the School of Medicine and a two year course in pharmacy leading to the professional degree of Graduate in Pharmacy (Ph. G.) was offered.

In 1917 additional courses of three and four years, leading to the degrees of Pharmaceutical Chemist (Ph.C.) and Bachelor of Science in Pharmacy (B.S.Pharmacy) were established. The degree of Graduate in Pharmacy given for two years of pharmaceutical work is recognized by such State Boards of Pharmacy as require a course in pharmacy preliminary to examination for registration.

The West Virginia State Board of Pharmacy does not require a college course of applicants who present themselves for examination, but it strongly recommends such a course to all persons intending to become candidates for registration as pharmacists.

State Pharmacy Law.

Extract from law of the State of West Virginia governing the practice of pharmacy: SEC. 11. In order to be hereafter licensed as a pharmacist within the meaning of this act, an applicant shall be not less than twenty-one years of age, and shall present to the board of pharmacy satisfactory evidence that he has had four years' experience in pharmacy under the instruction of a licensed pharmacist, and he shall pass a satisfactory examination by or under the direction of the board of pharmacy; in order to be licensed as an assistant pharmacist, within the meaning of this act, an applicant shall be not less than eighteen years of age, shall have a sufficient preliminary general education, and shall have not less than two years' experience in pharmacy under the instruction of a licensed pharmacist and shall pass a satisfactory examination by or under the direction of the board of pharmacy; provided, however, that in the case of a person who has attended a reputable school or college of pharmacy, the actual time of attending such school or college of pharmacy may be deducted from the time of experience required of pharmacists, but in no case shall less than two years' experience be required for graduation as a licensed pharmacist.

LABORATORIES AND EQUIPMENT.

The Department of Pharmacy has quarters in the Medical Building. The equipment for all the courses offered in the department is complete and of the latest design.

Pharmaceutical Laboratories.

The general pharmaceutical laboratory is located on the third floor of the building.

The miscroscopy laboratory is also located on the third floor, and is exceptionally well lighted for microscopic work. Each student is provided with a high grade compound microscope, standard micrometer, turntable, slides and cover glasses, a full set of reagents, whole and powdered drugs and all necessary equipment for the work undertaken in the course.

Analyses of foods and drugs are made in the private laboratory of the head of the department. The laboratory is furnished with running hot and cold water, drainage, electric current, and all equipment necessary for this special line of work.

Dispensing Laboratory and Free Dispensary.

The dispensing laboratory is located on the first floor of the building, directly opposite the offices of the Dean, and is provided with shelfware, prescription balances, files, etc. Twelve students can be accommodated at one time. The University Free Dispensary affords excellent opportunity for the pharmacy students to compound and dispense the prescriptions of practising physicians. Between eight hundred and one thousand prescriptions are compounded and dispensed in one school year.

PHARMACEUTICAL ASSOCIATIONS.

The West Virginia Branch of the American Pharmaceutical Association.

The headquarters of the West Virginia Branch of the American Pharmaceutical Association are at Morgantown. This branch of the national organization is composed of the representative pharmacists of West Virginia. Students of pharmacy are eligible to membership in the branch and are privileged to attend the lectures and meetings without becoming members. Address communications to B. Berry, Secretary, Morgantown, W. Va.

The West Virginia State Pharmaceutical Association.

Students of pharmacy are eligible to membership in this organization, which has for its object the improvement of the science and art of pharmacy, the inculcation of the professional spirit and the restriction of the practice of pharmacy to persons properly qualified by education and experience to exercise their art with safety to the public. Address communications to Patrick G. Kelly, Thurmond, W. Va.

Pharmacists' Register.

A pharmacists' register for the benefit both of the employer and employee has been established by the Department of Pharmacy. No charge is made for services rendered.

FEES AND EXPENSES.

In the Department of Pharmacy the tuition fees are $15.00 a semester or $25.00 a year for resident students, and $30.00 a semester or $50.00 a year for students non-resident in West Virginia. Cadets have free tuition and books.

The matriculation fee is $5.00, payable upon entering the University by all students except cadets and those whose work is exclusively in music or art.

The contingent fee is $3.00 a semester, payable by all students except State cadets.

Each cadet upon entering the corps must pay $17.50 for a uniform.

The athletic fee is $2.50 a semester, payable by all students.

A fee of $2.00 a semester is charged for medical and dispensary service.

A fee of $2.00 a semester is charged for registration and the issuance of class cards. This fee is remitted to all students who procure class cards during the first two days of the first semester and the first day of the second semester. It is exacted in all other cases.

A fee of $1.00 is charged for furnishing a copy of a student's record in the registrars' office after the regular semester reports have been issued.

Students in pharmacy laboratory courses pay a special fee to cover cost of materials used and breakage of apparatus.

Rooms may be secured from $1.50 to $3.00 a week.

Board is available for from $5.00 to $7.00 a week.

PHARMACY LABORATORY FEES.

Two-Year Course:

Chemistry 1	$ 5.00
Chemistry 2	5.00
Chemistry 18	12.00
Chemistry 32	3.00
Chemistry 9	12.00
Pharmacy 3	3.00
Pharmacy 5	10.00
Pharmacy 7	5.00
Pharmacy 9	5.00
Pharmacodynamics 55	3.00
Microscopy 10	2.00
Physiology 6	2.00
Botany 4	3.00
Total for two year course	$70.00

Three-Year Course:

In addition to two year course:

Organic Synthesis 35	$2.00
Organic Analysis 37	5.00
Botany 3	3.00
Bacteriology 3	3.00
Food and Drug Chemistry 38 and 39	5.00 each

Four-Year Course:

The fees will vary with the electives chosen.

REQUIREMENTS FOR ADMISSION.

For admission to the pharmacy courses in the School of Medicine the student must have credit for fifteen units of secondary school work, 1. e., the work fo a standard four-year high school. A detailed statement of the units required is given on page 10.

ADMISSION OF SPECIAL STUDENTS.

Persons who do not desire to become candidates for degrees may by permission of the committee on entrance, be admitted as special students. Every application for admission as a special student must be in writing and must set forth fully the applicant's reasons, together with a detailed statement of the studies he desires to pursue. Special students may take the regular pharmacy work and at the completion of the two year course will receive a certificate of proficiency in pharmacy. This certificate is recognized by those state boards of pharmacy which require a college course.

COURSES IN PHARMACY.

TWO YEAR COURSE.

The two-year course provides the foundation work in pharmacy and pharmacognosy, together with those essentials of analytical chemistry necessary in the drug business.

All the subjects scheduled in this course are compulsory, there being no electives. The laboratory method of instruction is emphasized. The number of actual hours spent in this course is 1980, of which 1106 are spent in the laboratory and the remaining 874 hours in lectures and quiz.

CURRICULUM FOR TWO-YEAR COURSE.

Professional Degree of Ph. G. (Graduate in Pharmacy.)

First Year—First Semester.

Pharmacy 1	9:00 T. Th.	2	
Pharmacy 2	8:00 M. W. F.	3	
Pharmacy 3	2:00-5:00 T. Th.	2	
Physiology 6	10:00 M. T. Th. F., 2:00-5:00 W.	5	
Chemistry 1	11:00 M. W., 2:00-4:00 M. F.	4	16

First Year—Second Semester.

Pharmacy 4	10:00 M. F., 8:00 W.	3	
Pharmacy 5	2:00-5:00 T. W 9:00-12:00 S.	3	
Pharmaceutical chemistry 32	8:00 T. Th. 2:00-5:00 Th.	3	
Botany 4	9:00 M. W. 9:00-12:00 T. Th.	4	
Chemistry 2	11:00 M. W. 2:00-4:00 M. F.	4	17

Second Year—First Semester.

Pharmacy 6	2:00 M. W. F.	3	
Pharmacy 7	2:00-5:00 T. Th.	3	
Pharmacognosy 1	8:00 M. T. W. Th. F.	5	
Microscopy 10	3:00-5:00 M. W. F.	2	
Chemistry 18	9:00-12:00 M. T. W. Th. F.	5	18

Second Year—Second Semester.

Pharmacy 8	9:00 M. W. F.	3
Pharmacy 10	11:00 M. F.	2
Pharmacy 11	2:00-5:00 M.	1
Pharmacology 52	8:00 T. Th. S.	3
Pharmacology 55	9:00-12:00 T. Th.	2
Chemistry 9	10:00 M. F., 11:00 W., 2:00-5:00 T. W. Th.	5 16

Note.—Pharmacy students should elect their work in sequence as shown in the schedule. If they fail in one or more courses during a semester, they may continue the work during the following semester, but the course or courses in which they have failed must be retaken at the first opportunity. Students will not be allowed to elect an advanced course until all prerequisite requirements have been satisfied.

THREE YEAR COURSE.

For the completion of the three-year course the degree of Pharmaceutical Chemist Ph. C. is awarded. The course is designed particularly for those who desire to enter the commercial field of pharmaceutical chemistry and food and drug chemistry, or for those pharmacists who wish to strengthen their professional relations by the practice of urinary, bacteriological and toxicological analysis for the physician. Students are advised to select one phase of the advanced work and pursue it to completion as outlined, as there would not be sufficient time in three years to permit the successful accomplishment of both.

CURRICULUM FOR THREE-YEAR COURSE

Professional degree of Pharmaceutical Chemist. (PH. C.)

First Year.

First Semester.	Hours Credit.	Second Semester.	Hours Credit
Pharmacy 1	2	Pharmacy 4	3
Pharmacy 2	3	Pharmacy 5	3
Pharmacy 3	2	Pharmaceutical Chem 32	3
Physiology 6	5	Botany 4	4
Botany 3	3	Chemistry 2	4 17
Chemistry 1	4 19		

Second Year.

Pharmacy 6	3	Pharmacy 8	3
Pharmacy 7	2	Pharmacy 10	2
Microscopy 1	2	Pharmacy 11	1
Pharmacognosy 1	5	Pharmacology 52	3
Chemistry 18	5 17	Pharmacodynamics 55	2
		Chemistry 9	5 16

Third Year.

English 1	3	English 2	3
English 26	2	English 27	2
Pharmacy 9	3	*Bacteriology 3	4
French or German	5	French or German	5
Chemistry 10	3 16	Hygiene and Sanitation 5	2
		Chemistry 37	3 19

Chemistry 38 may be subsituted for Bacteriology 3.

FOUR-YEAR COURSE.

The four-year course is a combined academic and professional course including one hundred and twenty-eight semester hours of work as shown in the following curriculum.

Professional degree of Bachelor of Science in Pharmacy. (B.Sc. Phar.)

First Year.

First Semester.	Hours Credit.	Second Semester	Hours Credit.
English 1	3	English 2	3
English 26	2	English 27	2
Botany 3	4	Botany 4	4
Mathematics 3	3	Mathematics 4	2
Chemistry 1	4 16	Pharmacy 10	3
		Chemistry 2	4 17

Second Year.

Microscopy 1	2	Hygiene and Sanitation 5	2
Pharmacy 1	2	Pharmacy 4	3
Pharmacy 2	3	Pharmacy 5	3
Pharmacy 3	2	Pharmaceutical Chem. 32	3
Chemistry 18	5	Chemistry 9	5 16
Elective	3 17		

Third Year.

Pharmacy 6	3	Pharmacy 11	1
Pharmacy 7	2	Pharmacology 52	3
Pharmacognosy 1	5	Pharmacodynamics 55	2
Physiology 6	5	Bacteriology 3	4
Pharmacy 9	3 18	Elective	6 16

Fourth Year.

Physics 1	3	Physics 3	3
Physics 2	1	Physics 4	1
Mineralogy 6	5	Pharmacy 8	3
Chemistry 19	3	French or German	5
French or German	5 17	Chemistry 21	3
		Chemistry 37	3 18

COURSES IN DEPARTMENT OF PHARMACY.

PHARMACY.

Assistant Professor BERGY and Mr. HAYMAN.

1. Theoretical Pharmacy. (2 Hrs.) Descriptive and experimental lectures and recitations, embracing a study of the apparatus and technique necessary for the correct procedure in the manufacture of pharmaceutical preparations. (36 hours).

First semester; T. Th., 9:00; MR. HAYMAN.

2. Pharmaceutical Arithmetic and Stoichiometry. (3 Hrs.) Lectures and recitations. (50 hours).

First semester; M. W. F., 9:00; MR. HAYMAN.

3. Physics of Pharmacy. (3 Hrs.) A laboratory course designed to accompany courses 1 and 2 in pharmacy. Quizzes and laboratory (100 hours). Fee, $3.00.

First semester; M. F., 2:00-5:00; MR. HAYMAN.

4. Operative Pharmacy Lectures. (3 Hrs.) A systematic consideration of the various official preparations for which the Pharmacopoeia and National Formulary gives formulas and processes. Lectures and recitations. Prerequisite, Pharmacy 1, 2, and 3. (50 hours.)

Second semester; M. F., 10:00; W. 8:00; Assistant Professor BERGY.

5. Operative Pharmacy Laboratory. (4 Hrs.) This course is carried on in conjunction with Pharmacy 4. The representative classes of preparations of the Pharmacopoeia and National Formulary are manufactured. Students are required to pass an examination in the identification of these preparations by their physical characteristics. Laboratory (150 hours). Fee, $10.00.

Second semester; W. Th. F., 2:00-5:00; Assistant Professor BERGY.

6. Manufacturing Pharmacy Lectures. (3 Hrs.) The more difficult pharmaceuticals and miscellaneous preparations are considered in connection with the modern methods of manufacture. Lectures and recitations. (50 hours). Prerequisite; Pharmacy 4 and 5.

First semester; 2:00 M. W. F.; Assistant Professor BERGY.

7. Manufacturing Pharmacy Laboratory. (3 Hrs.) The individual preparations are usually assigned in the form of a prescription and include those classes generally made extemporaneously. About seventy-five miscellaneous prescriptions are compounded and the existing incompatabilities studied. Every prescription must be labeled

and wrapped as in actual practice. Laboratory (100 hours). Fee $5.00.

First semester; T. Th., 2:00-5:00; Assistant Professor BERGY.

Prerequisite: Pharmacy 4 and 5.

8. Prescriptions and Incompatibilities. (3 Hrs.) The prescription is studied relative to the interpretation of the chemical, pharmaceutical, and therapeutical incompatabilities, posology, art of dispensing and Latin nomenclature. Lecture and recitations (50 Hrs.) Prerequisite: Pharmacy 1, 2, 3, 4, 5, 6 and 7.

Second semester; M. W. F., 9:00; Mr. HAYMAN.

9. Assay and Pharmacopoeial Testing. (3 Hrs.) A critical study of the identity, purity, limit and percentage tests of the pharmacopoeia as applied to all official organic and inorganic compounds. Lectures (25 Hrs.). Laboratory (50 Hrs.) Prerequisite Chemistry 5, 6 and 9.

Second semester; M. W., 8:00; T. Th., 2:00-5:00; S., 9:00-12:00; Assistant Professor BERGY.

10. Commercial Pharmacy. (2 Hrs.) The establishment, management, and development of a modern pharmacy, with special emphasis on business economics, accounting, correspondence, salesmanship and advertising. Lectures and recitations (35 Hrs.)

Second semester; M. F., 11:00; Assistant Professor BERGY and Mr. HAYMAN.

11. Prescription Practice. (1 Hr.) Compounding and interpretation of prescriptions as met with in actual practice. Laboratory work 50 hours. Prerequisite: Pharmacy 4, 5, 6, 7 and 8.

Second semester; M., 2:00-5:00. Assistant Professor BERGY.

CHEMISTRY.

Professor CLARK, Assistant Professor BERGY and Staff.

1. Inorganic Chemistry. (4 Hrs.) The course includes a systematic study of the laws of chemical combination; the source, preparation, properties and compounds of the non-metallic elements and the theories and laws of chemical operation. Experimental lectures, recitations and laboratory work. Laboratory fee, $3.00.

First semester; M. W., 11:00; laboratory, M. F., 2:00-4:00; Assistant Professor MORRIS and Mr. ———.

2. Inorganic Chemistry. (4 Hrs.) Continuation of Chemistry 1. This course includes the study of the metallic elements and special attention is paid to the applications of chemistry to agriculture, engineering, medicine, pharmacy and every-day life. Experimental lectures, recitations and laboratory work. Laboratory fee, $3.00.

Second semester; M. W. F., 11:00; laboratory, M. F., 2:00-4:00. Assistant Professor MORRIS and Mr.———.

18. Qualitative and Quantitative Analysis. (5 Hrs.) A course for students preparing for medicine. Laboratory fee, $12.00.

First semester; daily 9:00-12:00; Assistant Professor HILL.

5. Qualitative Analysis. (4 Hrs.) Continuation of Chemistry 2. This is an extended course treating of those properties which are of importance in the separation and identification of the common metals and acids. In addition to the work in the laboratory there are lectures and recitations in which chemical reactions are studied from the point of view of the mass law and the theory of electrolytic dissociation. Laboratory fee, $9.00.

First semester; M. W. F., 2:00-5:00; Professor CLARK.

6. Quantitative Analysis. (5 Hrs.) A course treating of the elementary principles of gravimetric and volumetric analysis. Laboratory fee, $8.00.

Second semester; M., 2:00; laboratory, T. W. Th. F., 2:00-5:00; Professor CLARK.

9. Organic Chemistry. (6 Hrs.) Laboratory fee, $5.00.

Second semester; M. F., 10:00; W., 11:00; 2:00-5:00; T. W. Th. Professor CLARK.

Note.—Hours arranged for pharmacy students.

32. Pharmaceutical Chemistry. (3 Hrs.) A course dealing specifically with inorganic chemistry as applied to pharmacy. Non-metals,

metals, and their inorganic compounds, equation writing, stoichiometry, etc., are discussed. The modern methods of commercial manufacture of inorganic chemicals are considered. The students prepare a large number of inorganic chemicals in the laboratory. Laboratory fee, $1.00.

Second semester; T. Hh., 8:00; laboratory, Th., 2:00-5:00; Assistant Professor BERGY.

36. Organic Chemistry. (3 Hrs.) Prerequisite, Organic Chemistry 34.

Second semester; M. W. F., 11:00; Mr. BERGY.

37. Organic Analysis. (3 Hrs.) A lecture and laboratory course which has for its subject matter the chemistry, means of detection, and the qualitative of the alkaloids. Required in the three-year and four-year courses.

First semester; M. W., 2:00-5:00; Mr. HAYMAN.

38. Food and Drug Analysis. (2 to 5 Hrs.) A graded course of lectures and laboratory work with collateral reading. Prerequisites, Chemistry 1, 2, 6, 18, 26, 34.

First semester; M. T. W. Th. F., 2:00-5:00; MR. BERGY and MR. HAYMAN.

39. Food and Drug Analysis. (2 to 5 Hrs.) A continuation of Chemistry 38. Analysis and practice in detecting adulteration in a large and varied number of preparations.

Second semester; M. T. W. Th., 2:00-5:00; Mr. BERGY and MR. HAYMAN.

BOTANY.

Professor YORK, Mr. SPANGLER and Mr. ———.

3. Botany. (4 Hrs.) This course includes a general survey of the various plant groups—algae, fungi, mosses, ferns, and seed-plants—with a consideration of their relation to agriculture. Laboratory fee, $1.50.

First semester; T. Th. 8:00; Professor YORK; laboratory sections M. Th., W. F., 2:00; ., 2:00, S., 9:00; Mr. SPANGLER.

4. Botany. (4 Hrs.) Continuation of Botany 3. First half-semes-Morphology, physiology, and economic importance of seed-plants. Some field work is required.

Second-half semester; Characteristics and uses of the principal families of seed-plants: practice in identification and classification. A collection is required. Laboratory fee, $1.50.

Second semester; M. W., 9:00 Professor YORK; laboratory sections, T. Th., 9:00, 12:00; Mr. SPANGLER.

MICROSCOPY.

MR. HAYMANN.

10. Microscopy. (2 Hrs.) A detailed study of the microscope and accessories and their uses in the arts, sciences and industries; microscopical characteristics of starches, powdered vegetable drugs, adulterants of powdered drugs and spices. Laboratory fee, $1.00.

First semester; T. Th., 10:00 to 12:00; S., 9:00.

PHARMACOGNOSY AND MATERIA MEDICA.

Assistant Professor BERGY.

11. Pharmacognosy. (5 Hrs.) Lectures and recitations including official titles and definitions, families, constituents, actions, uses, and doses together with practical work in identification. Animal drugs and their materia medica are considered here. In conclusion a short series of lectures on immunity, antitoxins, vaccines, etc., especially fitted for students in pharmacy.

First semester; M. T. W. Th. F., 9:00.

PHARMACOLOGY.

Associate Professor BONAR.

55. Pharmacodynamics. (2 Hrs.) Required of all second year students in pharmacy. This is a laboratory course beginning with simple experiments upon cold blooded animals, followed by more complex experiments with the lower animals. The experiments are so selected as to adapt the training to the needs of modern pharmacy, laying particular emphasis upon toxocology and methods of quantitative physiological tests for drugs.

Second semester; T. Th., 9:00-12:00; Associate Professor BONAR.

52. Pharmacology. (3 Hrs.) Required of all second year students in pharmacy. This lecture course aims to give a general survey of the pharmacodynamic action of the more potent drugs which the pharmacist is called upon to dispense.

Second semester; T. Th. S., 8:00; Associate Professor BONAR.

PHYSIOLOGY.

Professor SIMPSON.

1. Physiology. (5 Hrs.) A study of the functions of the different organs of the body, illustrated by demonstrations of human organs and those of lower animals, with a miscroscopic study of the most important tissues of the body. A laboratory period one afternoon each week will be given to the dissection of the cat and to the preparation of histological slides of the different organs. Laboratory fee, $1.00.

First semester; M. T. Th. F., 10:00; laboratory, W. 2:00 to 5:00.

17. First Aid to the Injured. (1 Hr.) A demonstrative lecture course in bandaging; care of the wounded; antidotes for poisons; etc. Intended to fit the student for all emergency cases.

Second semester; M. F., 10:00; Profssor SIMPSON.

BACTERIOLOGY.

Professor ARKIN.

3. Medical Bacteriology. (5 Hrs.) In this course the student becomes familiar with the preparation of culture media, the principles of sterilization and disinfection, the methods of cultivating, staining and studying bacteria. Special attention is given to the pathogenic bacteria and their relation to disease; the hygienic as well as pathologic relations; the effects produced by animal inoculations; the bacteriological examination of air, water, milk, foods, sputum, blood, etc.; isolation of bacteria from unknowns; laboratory fee, $3.00.

First semester, first twelve weeks, M. T. Th., 8:00; laboratory, M. T. W. Th. F., 2:00; Professor ARKIN.

5. Hygiene and Sanitation. (2 Hrs.) Elective. This course gives a knowledge of the fundamental principles of the science, especially as they pertain to the welfare of the individual and to the proper care of the public health. Prerequisite, Bacteriology 3.

Second semester; T. Th., 8:00; Professor ARKIN.

1. Laboratory Diagnosis. (2 Hrs.) A laboratory course in the chemical, microscopical and bacteriological examination of urine, feces, blood, gastric contents, etc., and their pathologic and clinical significance.

Second semester; hours to be arranged; Professor ARKIN.

THE SCHOOL OF MUSIC

STAFF OF INSTRUCTION.

FRANK BUTLER TROTTER, A.M., LL.D., *President of the University*

LOUIS BLACK, *Director and Head of the Vocal Department*

SUSAN MAXWELL MOORE, A.B., *Instructor in Piano*

GRACE MARTIN SNEE, B.M., *Instructor in Piano and Pipe Organ*

MAX DONNER, *Instructor in Violin and Ensemble*

FLORA RAY HAYES, A.B., *Instructor in Theory and History of Music*

ETHEL BORDEN BLACK, *Instructor in Piano*

AGNES CHADBOURN JOHNSON, A.B., *Instructor in Public School Music. Extension Work*

WALTER R. MESTREZAT, *Instructor in Wind Instruments*

ALMENA JOSEPHINE BUNCE, *Student Assistant in Voice*

BUILDING AND EQUIPMENT.

The school has been moved from Woodburn Hall to 509 Front Street just adjoining the Campus.

This building affords a better arrangement of floor space and several additional practice rooms.

This location has many advantages over the old quarters. It is nearer the center of the city, on the street floor and gives the school a building separate and apart.

Commencement Hall, seating 1,000 people, contains a magnificent three-manual pipe organ, tubular pneumatic—built upon the universal wind-chest system and having 76 stops and mechanical accessories. A new Moller console and stop action has recently been added. This organ, which receives power from an electric motor, is available for practice.

The school is equipped exlusively with Knabe pianos; in all, ten uprights and six concert grands.

CONCERTS AND RECITALS.

Faculty concerts are given at least three times a year, the last of the yearly series being the Commencement concert. All the members of the School of Music Faculty participate in these concerts, though occasionally one member may give an individual recital.

STUDENT CONCERTS.

A student's concert is given each week. These concerts vary in grade from elementary to graduate and post-graduate recitals. The object is to afford opportunity for the students to apply in public the proficiency that has been developed in the studio.

ARTISTS' CONCERTS.

During each year several artists of international fame are engaged for recital and concerts; such artists as Rosenthal, Harold Bauer, Tina Lerner, Francis McMillan, Schumann-Heink, Frances Alda, David Bispham and others.

These concerts are made easily accessible to students generally.

THE UNIVERSITY CHOIR.

This organization has been in existence for eleven years under the present director. It is open to all students who can sing a part. Its principal function is to sing in the devotional exercises at Convocation each Wednesday. This gives the members a practical church choir experience.

During each year the choir appears in secular concerts and on other occasions.

THE UNIVERSITY PHILHARMONIC ORCHESTRA.

A University orchestra of thirty-five members, composed of students and outside talent, is constituted as follows:

First and second violins, violas, violincellos, contrabasses, flutes, oboes, trombones, drums, and all percussion instruments.

An average of four concerts will be given each year in which members of the faculty and advanced students in piano, violin, voice, organ and other departments can appear as soloists.

Rehearsals are held weekly. All advanced students in string and wind instruments are required to play in the orchestra and outside students of ability are also admitted on payment of a nominal fee.

Students in composition may have their works rehearsed and performed if found worthy, and students in conducting also have opportunity for actual practice.

This orchestra will afford the training and routine indispensable to the experienced orchestral player.

GENERAL ANNOUNCEMENTS.

Students may enter the School of Music at any time, but it is greatly to their interest to enter, as far as possible, at the beginning of the semester.

Students entering within the first two weeks of a semester will be charged for full semester; after that time, for the remainder of the semester and one week additional.

There is no deduction made for lessons missed by students except in case of prolonged illness, when the loss is divided equally between the student and the school.

Students of the School of Music are not allowed to take part in public programs or to join musical organizations without the consent of their respective teachers and the director of the school.

All music students are expected to attend the regular students' recitals, and to take part in them whenever so assigned, and to attend all concerts given under auspices of the University. They are expected to identify themselves with the various organizations of the school, and are required to enter any of which they are assigned by the director.

It is expected that all students will take sufficient work—literary or musical or both—to occupy their entire time.

CREDIT FOR MUSIC ON COLLEGE COURSES.

Credit towards the degree of Bachelor of Arts will be given for courses in the theory and the history of music, not to exceed fifteen semester hours.

COURSES OF STUDY.

The School of Music offers instruction in the following subjects: voice, piano, violin, organ, accompanying, chamber music, orchestra, band music, sight-reading, public school music, harmony, counterpoint, canon and fugue, and history of music. In voice, piano and violin two courses are offered, one leading to a teachers' certificate, and one leading to an artist's diploma.

REQUIREMENTS FOR ADMISSION.

No student can be classified in the collegiate course in music without passing an examination in solfeggio, or demonstrating to the satisfaction of the head of the department the ability to read music of moderate difficulty, and giving evidence of the mastery of the elements of music.

In the preparatory course, to which children only are admitted no previous knowledge of music is required.

REQUIREMENTS FOR GRADUATION.

GENERAL REQUIREMENTS.

Candidates for a teacher's certificate in any of the three courses mentioned above must present a high school diploma or equivalent credits. They must also complete courses 1, 2, 3 and 4 in theory of music, and courses 5 and 6 in history of music or courses 7 and 8 in the appreciation of music, and show satisfactory proficiency in ensemble work.

Candidates for an artist's diploma must meet all the requirements imposed for the teacher's certificate and appear satisfactorily in a graduating recital.

VOICE.

Candidates for the teacher's certificate in voice, in addition to the above general requirements, must satisfactorily complete the three-year course in voice as outlined below, and must possess the ability to perform acceptably selections from the standard oratorios and operas. They must also complete one year of work in each of the modern languages—French, German and Italian, and two years of piano.

Candidates for the artist's diploma in voice must satisfy all the requirements for the teacher's certificates, and must complete the fourth year's work in voice.

PIANO.

Candidates for the teacher's certificate in piano, in addition to the general requirements, must satisfactorily complete the course outlined below for the elementary and intermediate grades. They must also complete the course in ensemble playing.

Candidates for the artist's diploma in piano must satisfy all the requirements for the teacher's certificate and must complete the work in piano outlined below for the advanced grade. A graduating recital must be given, part of which program shall consist of a standard concerto for piano-forte and orchestra.

VIOLIN.

Candidates for the teacher's certificate in violin must satisfactorily complete the three-year course in violin music as outlined below, including the concertos of Viotti, Rode and Kreutzer, and the lighter works of some modern composer. They must also have some knowledge of piano playing.

Candidates for the artist's diploma, in addition to the work required for the teacher's certificate, must complete the four years' work in violin music and give a graduating recital program including one sonata or concerto, one trio or quartet and solos.

NOTE.—Students desiring to become candidates for certificates or diplomas should note that while the above mentioned courses are referred to as three-year and four-year courses no definite period of time can be assigned for their completion. In all cases certificates and diplomas are awarded on the basis of the proficiency acquired, rather than on the length of time devoted to the course.

PUBLIC SCHOOL MUSIC.

Candidates for the supervisor's certificate in public school music must satisfactorily complete the course in public school music (64 hours) as indicated below. A high school diploma or equivalent credit is prerequisite.

The supervisor's certificate in public school music given by the University exempts the holder from examination by the State Board.

Required Courses (50 Hours).

10 hours Harmony.
8 hours Public School Music (Material, Methods and Practice Teaching.
6 hours Public School Music (Sight Reading and Dictation).
2 hours High School Music.
4 hours Music Appreciation.
6 hours Education (Education 4, 5, 10, 12, 23, 27, or 30).
6 hours Piano.
6 hours Voice.
2 hours Accompanying.

Electives (14 Hours).

Folk dancing, physical training, English, education or modern languages; others at the discretion of the instructor in public school music.

NOTE.—Students working for the public school music supervisor's certificate must complete the work outlined below for the first five grades in piano, and for the first grade in voice.

All canidates for the supervisor's certificate who are not working for a teacher's certificate or artist's diploma in voice, will do their voice work with Miss Johnson.

All canidates for the supervisor's certificate who are not working for a teacher's certificate or artist's diploma in piano, will do their accompanying with Miss Johnson.

DEPARTMENTS OF INSTRUCTION.

Strict adherence to a fixed list of studies is not required. The needs of the individual student are considered and the studies varied accordingly. An idea of the work covered in the different classes may be obtained from the following:

VOICE.

MR. BLACK.

First Grade—Technique; scales, arpeggios, etc.; vocalises, Panofka and Concone, Vaccai and Marchesi. Simple songs in Italian and English.

Second Grade—Technique; scales, Lutgen, Concone, Lamperti, Panofka, etc. Songs in Italian and English. Ensemble; duets, trios and quartets.

Third Grade—Technique; Bona, Lutgen, Concone, Bordogni, etc. Arias from standard grand operas and oratorios. Ensemble.

Fourth Grade—Technique; Lamperti, Concone, Aprile, etc. Graduation recital program.

PIANO.

Elementary. GRADE I. (a) Structure of the keyboard and fundamentals of notion. (b) Technic: all major scales; finger exercises; transposition of such exercises into familiar keys. (c) Studies and short pieces of the first grade by standard composers. (d) Ear trainig: pitch and rhythm of short melodic phrases. (e) Sight reading: simple duets for teacher and pupils.

GRADE II. (a) More advanced notation. (b) Technic: all major scales in parallel and contrary motion; minor scales in parallel motion; finger exercises; transposition of exercises into familiar keys. (c) Studies by Kohler, Loeschhorn and Heller; Little Preludes by Bach, sonatinas by Clementi and others; classical and romantic compositions of second grade. (d) Ear training: phrases in one and two voice-parts. (e) Sight reading: pieces of first grade; duets.

GRADE III. (a) Technic: all major and minor scales in parallel and contrary motion; two-octave arpeggios in triads, dominant and diminished seventh chords; finger exercises; transposition of exercises into various keys. (b) Studies such as Berens' Velocity Studies; Kuhlau and Clementi sonatinas, Schumann's Album for the Young, and miscellaneous compositions of third grade. (c) Ear training:

phrases in one to four voice parts. (d) Sight reading: pieces of second grade.

Intermediate. GRADE IV. (a) Technic: scales and arpeggios in all keys; scales in thirds; exercises for fingers, arm, pedals, etc.; transposition of exercises. (b) Studies such as Kramer's Fifty Studies (Schirmer edition), Czerny's Velocity Studies, Op. 299; two-voice inventions by Bach, sonatas by Haydn and Mozart, and miscellaneous compositions of fourth grade. (c) Ear training: phrases in two to four voice-parts. (d) Sight reading: pieces of third grade.

GRADE V. (a) Technic: arpeggios in extended positions; scales in thirds and sixths. (b) Kramer and Czerny studies continued; studies by Jensen and Haberbier; three-voice inventions by Bach, Beethoven's earlier sonatas, and miscellaneous compositions of fifth grade. (c) Ear training: phrases in four voice-parts. (d) Sight reading: sonatas by Clementi, Kuhlau, etc.

GRADE VI. (a) Technic: rapid scales and arpeggios; octave exercises; transpositions. (b) Studies such as Clementi's Gradus ad Parnassum, Czerny Op. 740; Bach's Well-Tempered Chlavichord, other Beethoven sonatas, sonatas by Weber, Grieg, Chopin, and miscellaneous compositions of sixth grade. (c) Ear training: more difficult phrases in four voice-parts. (d) Sight reading: simpler sonatas by Haydn and Mozart.

Advanced. GRADE VII. (a) Technic: complex and extended scales and arpeggios. (b) More difficult compositions by Beethoven, Chopin, Schumann and Liszt; piano concertos by Beethoven, Mozart, Mendelssohn and others; miscellaneous compositions of seventh grade.

Examinations in Piano.

All entering students, other than beginners, will be given an entrance examination to determine for which grade they are fitted.

All piano students will be examined at least twice a year, in January and in June, to determine the progress made.

VIOLIN.

Mr. MAX DONNER.

Elementary. Scales and finger exercises. Schools and studies by Dancla, de Beriot, Keyser, Leonard Dont, etc.

Solos by de Beriot, David, Dancla, etc.

To pass from the elementary into the intermediate grade, a satisfactory performance of the Accolay Concerto No. 1 Am. is required.

Intermediate. Scales and arpeggi in three octaves. Studies by Kreutzer, Fiorillo, and Caprices by Rode.

Concertos and solos—Mozart E flat major; Viotti No. 22, 23; Kreutzer No. 19; Rode No. 7, 8; de Beriot No. 6, 7, 9; Beethoven Romances, etc.

Advanced Soloist Course. Scales and arpeggi in three octaves. Studies and Caprices by Rode, Fiorillo, Kreutzer, Vieuxtemps, Ernest, Bach, and Paganini.

Concertos and Solos. Spohr 2nd and 8th; Viotti 22nd; Bach, Chaconne, Concerto in E major; Wieniawski 2nd; Mendelssohn, Bruch, Beethoven, Vieuxtemps No. 5; Saint-Saens B minor, and Paganini.

NOTE—All advanced pupils are required to participate in the rehearsals of the orchestra, unless especially excused, and play in the Ensemble and String Quartet class.

PREPARATORY COURSES.

The School of Music offers well organized preparatory courses in piano and violin. The beginner's course has two lessons a week after school hours. Pupils generally remain in this course two years.

In the preparatory piano course a system of private and class lessons is used for all pupils. Experience has shown that much of the study necessary for a child's well-rounded musical development can be best done in classes. Rhythm, melody, ear-training, sight-reading and technic are included in the class work.

Pupils remain in this course until they shall have completed such studies as Berens' Velocity Studies, Loeschhorn's Thirty Melodious Studies, the easier Heller studies, Kuhlau and Clementi Sonatinas, Schumann's Album for the Young, and all major scales and arpeggios.

PIPE ORGAN.

MRS. SNEE.

The organ course is extended to provide a thorough and complete preparation for the work of a church organist and accompanist.

A certain facility at the piano and in sight-reading is necessary before this work is taken up.

Stainer's Organ Primer, with special pedal studies and hymn playing comprise the preparatory work.

Rink's Organ School, Buck's studies in Phrasing and the works of Bach, Mendelssohn, Guilmant and Rheinberger comprise the groundwork of study through the course.

PUBLIC SCHOOL MUSIC.

Miss JOHNSON.

1. Sight Reading and Melodic Dictation. (3 Hrs.) This course is designed to meet the needs of students who are deficient in rhythm, intervals, scales, etc., and who are unable to read vocal music with facility. In addition to the work in sight reading, the student will be trained to recognize melodies by ear and to write them in correct notation.

First semester; M. W. F., 3:00.

2. Sight Reading and Melodic Dictation continued. (3 Hrs.)
Second semester; M. W. F., 3:00.

3. School Music Methods, Materials and Practice Teaching. (4 Hrs.) This course is intended to provide the preparation and equipment necessary for a supervisor of music in the public schools. It will include: teaching of technic; classroom management; essentials in public school music; the child-voice; lesson plans for each grade; materials; practice teaching.

First semester; M. W. Th. F., 10:00.

4. School Music Methods and Practice Teaching continued. (4 Hrs.)
Second semester; M. W. Th. F., 10:00.

5. High School Music. (1 Hr.) The general subject of music in the high and junior high schools. Chorus conducting; orchestra; glee clubs; the arrangement of courses in harmony and appreciation of music for high schools; applied music study; credits for outside work, etc.

First semester; M., 2:00.

6. High School Music continued. (1 Hr.)
Second semester; M., 2:00.

7. Appreciation of Music. (2 Hrs.) This course is designed as preparation for the teaching of the subject, as well as to meet the needs of all students interested in music. Study of masterpieces. The lectures will be illustrated by the instructor at the piano and by the use of the Victrola. This course does not presuppose a technical knowledge of music.

First semester; W. F., 2:00.

8. Appreciation of Music continued. (2 Hrs.)
Second semester; W. F., 2:00.

WOOD AND BRASS INSTRUMENTS.

MR. MESTREZAT.

Opportunity is offered in this course to obtain the instruction necessary to fit one to play the various wood-wind and brass instruments used in orchestras and bands.

ENSEMBLE.

MR. DONNER.

1. **Lessons in Accompanying.** This course is intended to furnish opportunity to advanced students to acquire the art of accompanying songs, violin and cello solos.

2. **Chamber Music.** The study of sonatas, trios and string quartets by Haydn, Mozart, Beethoven, Bach, Handel, Mendelssohn, Gade, Greig, etc. Open to violinists, cellists, pianists and viola players. A preparatory class is also offered, the work to be studied including trios by Reinecke, Bohm, Haydn, Helmsberger, Sshubert and Weber.

3. **Orchestra Music.** A study of the usual orchestral works and of accompaniments of pianoforte and violin concertos.

THEORY OF MUSIC.

MISS HAYES.

NOTE: Fifteen hours of the following courses may be offered for credit in the College of Arts and Sciences.

1. **Harmony.** (5 Hrs.) Intervals. Scale and melody writing. Construction of the period. Triads, inversions, chord connections in three and four parts, cadences, chord of the seventh. Modulation.
First semester: 9:00.

2. **Harmony.** (5 Hrs.) Harmonizing of melodies employing the use of triads, dominant, diminished and secondary seventh chords, with inversions, in dispersed harmony. Chorals. Chants.
Second semester; 9:00.

3. **Counterpoint.** (5 Hrs.) Single melodic lines. Narrow and wide leaps. Counterpoint in one, two, three, four and more parts. Syncopation, rests, ties. Diversity of rhythmic movement. Modulation. Motive development. Prerequisite: Harmony 1 and 2.
First semester; 11:00.

4. Form and Analysis. (5 Hrs.) Chord reading. Primary forms. Canon in various intervals. Chamber music, oratorios and symphonies. The fugue form. The sonata form. Romantic art forms and modern forms. Orchestration.

Second semester; 11:00.

5. History of Music. (4 Hrs.) A general survey of the history of music. Drill in the pronunciation of names. Ancient music. Classic music.

First semester; M. T. Th. F., 10:00.

6. History of Music. (4 Hrs.) Music of the nineteenth century and present day topics. Romantic period in composition and opera. Modern period. Recent opera and oratorio. Critics and criticism. Present state of music. Twentieth century composers. Illustrations of periods by instructor and class.

Second semester; M. W. Th., 10:00.

SUMMER SCHOOL.

The University Summer School begins each year at the close of the second semester (about June 15) and lasts nine weeks. Several members of the Music School Faculty are in residence for the first six weeks and offer courses of special interest to those students who can attend only in summer, for particular pains is taken to cover all the ground possible in six weeks and the courses of study are arranged with that end in view.

TUITION.

	Lessons per week		
	One	Two	Three
Voice			
Mr. Black	$35.00	$55.00	$70.00
Miss Bunce	15.00	25.00	
Piano			
Mrs. Black	30.00	50.00	65.00
Mrs. Snee	20.00	30.00	
Miss Moore	20.00	30.00	
Elementary (Under 14 years)	15.00 a sem.		
Violin			
Mr. Donner			
Elementary	18.00	25.00	
Intermediate	20.00	30.00	
Advanced	25.00	40.00	
Pipe Organ			
Mrs. Snee	30.00	50.00	
Wood and Brass Instruments			
Mr. Mestrezat	14.00	20.00	
Public School Music (All work in classes)			
Miss Johnson			
Material, Methods and Practice Teaching	20.00 a sem.		
Sight Reading and Dictation	15.00 a sem.		
High School Music	5.00 a sem.		
Appreciation of Music	10.00 a sem.		
Voice	25.00 a sem.		
Ensemble			
Mr. Donner	20.00 a sem.		
Theory: Class daily, one hour			
Harmony, Analysis or Counterpoint	20.00 a sem.		
Musical History	16.00 a sem.		

Piano for practice, one hour a day, will be furnished at $6.00 a semester; two hours a day at $10.00 a semester; three hours a day at $14.00 a semester; four hours a day at $18.00 a semester.

Pipe organ practice, one hour a day, $10.00 a semester.

Students whose work is wholly in the School of Music pay only tuition.

Students who register in the School of Music and take University work not required in the music courses are subject to the usual University fees except the athletic fee.

THE SUMMER SCHOOL

Short Term, Six Weeks, June 15 to July 24, 1920.
Full Term, Twelve Weeks, June 15 to August 27, 1920.

THE FACULTY.

FRANK BUTLER TROTTER, A.M., LL.D., *President of the University.*

WALTMAN BARBE, A. M., LITT.D., (Director of the Summer School, and Professor of English in the University), *English Literature.*

MYRON J. ABBEY, A.M., (Director of Agricultural Education, University of Montana), *Nature Study; Agriculture.*

EDWARD SWITZER ALLEN, PH.D., (Assistant Professor of Mathematics in the University), *Mathematics.*

HOWARD B. ALLEN, A.M., (Assistant Professor of Agricultural Education in the University), *Vocational Agriculture.*

EDGAR LEWIS ANDREWS, B.S., AGR., (Assistant Professor of Poultry Husbandry in the University), *Poultry Husbandry.*

ERNEST LEE ANTHONY, M.S., (Professor of Dairy Husbandry in the University), *Dairy Husbandry.*

ROBERT ALLEN ARMSTRONG, A.M., L. H. D., (Professor of English Language and Literature in the University), *English Literature.*

LONNA DENNIS ARNETT, PH.D., (Librarian of the University), *Library Science.*

LOUIS BLACK, (Director University School of Music), *Voice.*

CHARLES KEPLER BROWN, (Instructor in Mining Extension in the University), *Mining.*

SAMUEL BOARDMAN BROWN, A.M., (Professor of Geology in the University), *Geology and Physical Geography.*

MENDOR THOMAS BRUNETTI, A.M., (Assistant in Romance Languages), *French.*

ALFRED COPELAND CALLEN, E.M., M.S., (Professor of Mining Engineering in the University), *Mining.*

CHARLES BENTON CANNADAY, A.M., (Professor of Latin in the University), *Latin.*

LORIMER VICTOR CAVINS, A.M., (Professor of Education in the University), *Education.*

OLIVER PERRY CHITWOOD, PH.D., (Professor of History in the University), *History.*

RACHAEL HARTSHORN COLWELL, A.M., (Associate Professor of Home Economics in the University), *Home Economics.*

JOHN HARRINGTON COX, A.M., (Professor of English Philology in the University), *English Literature.*

ANDREW JACKSON DADISMAN, M.S., (Associate Professor of Rural Economics and Farm Management in the University), *Rural Economics and Farm Management.*

ARLEIGH LEE DARBY, A.M., (Associate Professor of Romance Languages in the University), *French and Spanish.*

JASPER NEWTON DEAHL, PH.D., (Professor of Education in the University), *Education.*

WALTER S. DEFFENBAUGH, A.M., (Specialist in School Administration, United States Bureau of Education), *Education.*

MAX DONNER, (Head of the Violin Department in the School of Music in the University), *Violin and Ensemble.*

CARRIE B. EDMONDSON, (Critic Teacher in Northern Illinois State Normal School), *Demonstration School, Seventh and Eighth Grades.*

JOHN ARNDT EIESLAND, PH.D., (Professor of Mathematics in the University), *Mathematics.*

GEORGE ANDREW FEDERER, (Student Assistant in Chemistry), *Chemistry.*

JAMES HERBERT GILL, M.E., (Professor of Machine Shop Construction and Superintendent of Shops in the University), *Machine Shop Practice.*

HARRY EDWARD GRAY, (Instructor in Mining Extension in the University), *Mining.*

JOSEPH ADDIS GRAFT, (Instructor in Mining Extension in the University), *Mining.*

GRACE M. GRIFFIN, A.B., (Supervisor of Physical Training in the Public Schools of Helena, Mont.), *Physical Education for Women; School Plays and Games for Children.*

GEORGE WALTER GROW, B.S.M.E., (Assistant Professor of Drawing and Machine Design in the University), *Industrial Arts; Drawing.*

HENRY BASS HALL, PH.D., (Professor of Economics in Wesleyan College, Middletown, Conn.), *Economics and Sociology.*

ALFRED JARRETT HARE, A.M., (Professor of Latin and University Registrar), *Registrar.*

FLORA RAY HAYES, A.B., (Instructor in Theory and History of Music in the University School of Music), *Theory and History of Music.*

HARRY ORAM HENDERSON, M.S., (Extension Dairy Specialist), *Dairy Husbandry.*

CHESTER PENN HIGBY, PH.D., (Assistant Professor of History in the University), *History.*

HUBERT HILL, M.S., (Assistant Professor of Chemistry in the University), *Chemistry.*

JOSEPH ELLIS HODSON, PH.D., (Professor of Mathematics in University,) *Mathematics.*

CHARLES BYRON JOLLIFEE, B.SC., (Instructor in Physics in the University), *Physics.*

AGNES CHADBOURNE JOHNSON, A.B., (Instructor in Public School Music in the University), Public School Music.

GEORGE ELLIS JONES, PH.D., (Professor of Education in the University of Pittsburgh), *Education.*

CLARA E. KAPS, A.M., (Teachers College Experimental School, Scranton, Pa.), *Principle and Method in Teaching Reading and Arithmetic.*

HARRY EDWARD KNOWLTON, B.S., (Associate Professor of Pomology in the University), *Pomology.*

BENJAMIN TOWNE LELAND, A.M., (Associate Professor of Industrial Education in the University), *Industrial Education.*

EDWARD ALEXANDER LIVESAY, A.M., (Professor of Animal Husbandry in the University), *Animal Husbandry.*

ALLEN GUY MONTGOMERY, A.B., (Student Assistant in Mathematics), *Mathematics.*

SUSAN MAXWELL MOORE, A.B., (Dean of Women and Instructor in the Piano in the University School of Music), *Piano.*

WITHROW MORSE, PH.D., (Associate Professor of Physiology and Physiological Chemistry in the University), *Physiology, Hygiene, and Sanitation; Physiological Chemistry.*

ROLAND HARRISON PATCH, M.S.AGR., (Instructor in Horticulture in the University), *Entomology.*

LEONARD MARION PEAIRS, M.S., (Profesor of Entomology in the University), *Entomology.*

REBECCA LUELLA POLLOCK, A.M., (Instructor in English in the University), *English.*

ALBERT MOORE REESE, PH.D., (Professor of Zoology in the University), *Zoology.*

EDWARD BYRON REUTER, PH.D., (University of Chicago; Associate Professor of Sociology, Goucher College), *Red Cross Instructor in Applied Sociology.*

PAUL CHARLES ROUZER, B.S.AGR., (Instructor in Agricultural Education in the University), *Agricultural Education.*

ROBERT MUNDHENK SALTER, M.S., (Assistant Professor of Soils in the University), *Crops and Soils.*

C. ROWENA SCHMIDT, B.S., (Instructor in Home Economics in the University), *Home Economics.*

GEORGE LEE SCHUSTER, M.S., (Instructor in Agronomy in the University), *Agronomy.*

RAYMER EGBERT SEAMAN, (Instructor in Woodworking and Foundry Practice in the University), *Manual Training; Woodworking.*

JOSEPH KINGSLEY SHAW, PH.D., (Professor of Horticulture in the University), *Horticulture.*

WILSON PORTER SHORTRIDGE, PH.D., (Head of the Department of History, University of Louisville), *History.*

GRACE MARTIN SNEE, (Instructor in Pipe Organ in the University School of Music), *Pipe Organ.*

ROBERT CLIFTON SPANGLER, A.M., (Instructor in Botany in the University), *Botany.*

ROSCOE ELMO STEPHENSON, M.S., (Assistant Soil Chemist), *Crops and Soils.*

AGATHA L. SULIS, (Critic Teacher in Indiana, Pennsylvania, State ormal School), *Demonstration School, Fourth, Fifth and Sixth Grades.*

RUFUS ASA WEST, (Instructor in Metalworking in the University), *Metalworking.*

CHAUNCEY WILLIAM WAGGONER, PH.D., (Professor of Physics in the University), *Physics.*

CHARLES VINYARD WILSON, B.S.,AGR., (Instructor in Animal Husbandry in the University), *Animal Husbandry.*

LULA E. WRIGHT, (Critic Teacher Lincoln Practice School, Teachers College, Columbia University), *Demonstration School, First, Second and Third Grades.*

JULIA WORTHINGTON, M.S., (Assistant and Director Educational Service, American Red Cross), *Red Cross Supervisor of Field Work in Applied Sociology.*

ANNOUNCEMENTS

LENGTH OF THE SESSION.

The twenty-second session of the Summer School of West Virginia University will begin June 15, 1920. The six weeks term will close Friday, July 24. The second six weeks term will be condensed into five weeks (classes meeting six times weekly) and will close Friday, August 27. This shortening of the Summer School calendar will not affect the maximum amount of credit to be gained in the Summer School, which will remain as before—6 hours for six weeks and 12 hours for the complete course. This new arrangement has advantages which Summer School students will appreciate.

PURPOSE OF THE SUMMER SCHOOL.

The Summer School exists for two main purposes, namely: first, to enable teachers and supervisors to prepare themselves better, both professionally and academically, for their work; second, to enable all who desire to do so to work toward their college degrees. With these two ends in view, courses are offered in both professional and academic subjects. All classes of teachers, whether their work is in the country schools, city schools, high schools, or normal schools, will find here many courses of interest to them; and college students can go on with their work as well as at any other time of the year.

GRADUATE COURSES.

By a recent order of the University Faculty, regulations regarding residence for graduate work were so changed as to permit the securing of the Master's degree entirely by attendance at summer sessions, if so desired. The summer School offers a number of courses which may be counted toward the graduate degree of master of arts. All who are interested in graduate work should write to Dr. J. M. Callahan, chairman of the Committee on Graduate Study.

RENEWAL OF TEACHERS' CERTIFICATES.

By act of the Legislature of West Virginia, holders of first-grade teachers' certificates may obtain a renewal of such certificate by studying for six weeks in an accredited summer school. By doing satisfactory work in three courses (classes), wholly professional or partly professional and partly academic, in the University Summer School, this requirement may be met.

EXCUSE FROM INSTITUTE ATTENDANCE.

By act of the West Virginia Legislature, public school teachers who attend an approved summer school are excused from attendance at county teachers' institutes.

ADMISSION.

There are no requirements for admission to the Summer School unless the student desires University credit for the work to be done. If he desires regular classification he must meet the regular University requirements for admission, a statement of which may be found in the University catalogue.

FEES.

The entire fee for everything offered in the Summer School (excepting courses in the College of Law and private instruction in music) is $5.00, whether the student be a resident of West Virginia or of some other state provided that University credit for summer work is not desired. If University credit for the work is desired, a matriculation fee of $5.00 must be paid, unless the student is already a matriculate of the University.

Students from states other than West Virginia who desire to obtain University credit for the summer work will pay also a tuition fee of $10.00.

If, however, no University credit is desired, the total fee for students from other states, as well as from West Virginia, will be only $5.00. This statement applies, of course, to all students desiring certificates for the work done in the Summer School.

Small laboratory fees, depending upon the courses taken, are charged in some of the laboratory courses.

LIVING ACCOMMODATIONS.

For Women.

Miss Susan Maxwell Moore, Dean of Women, has charge of the living accommodations for women students in the summer school. Inquiries as to rooming and boarding should be addressed to her.

It is desirable to engage living accommodations before coming to the Summer School.

Women students arriving in Morgantown in the daytime should go first to Woman's Parlor, Woodburn Hall, unless they have already made arrangements for their living accommodations; those arriving at night should go to Woman's Annex, 247 Willey Street, where they will be taken care of until permanent arrangements for them can be made. Street cars go directly from the railway stations to the Annex.

Rooms in Woman's Hall, according to location, cost $11, $12, or $13, per person, for six weeks; in the Annex, $7.50, $9 and $10.50. Table board is $6 per week. Meals are served in the dining hall of the Woman's Hall, which accommodates 300 persons. A deposit of $10.00 is required from all who desire to secure rooms either in the Woman's Hall or the Annex.

For Men.

In private homes room rent ranges from $1.50 to $2.50 a week. Board may be had in private boarding houses at from $6.50 to $7.50 a week. Board and room together run from $9.00 to $10.00 a week. Men desiring accommodations should address C. A. Steepleton, Secretary, Y. M. C. A., Morgantown, West Virginia, stating kind of place wanted, locality desired, and price they are willing to pay.

Prospective Summer School students are urged to write direct to either Miss Moore or Mr. Steepleton about rooming and boarding accommodations, rather than to the President of the University or to the Director of the Summer School.

CREDITS, REPORTS AND CERTIFICATES.

Entrance credit or college credit may be had for most of the Summer School courses. The amount of credit will be found stated after each course in these Announcements.

Only regularly matriculated students may use Summer School credits to count toward a degree at West Virginia University, but all others who do the work of the Summer School courses and take the examinations in them will receive reports of their grades to be used in any other way they may like.

All grades, whether those of matriculated University students or of others, will be mailed to the students by the Registrar at the close of the twelve weeks course.

Students who do not work for grades will receive the following certificate by applying to the Director of the Summer School before leaving Morgantown.

> "This is to certify that_____ attended the Summer School of West Virginia University, 1920, for_____weeks and pursued the following courses:"

The work of the students attending the Summer School for the purpose of renewing their teachers' certificates will be reported directly to the State Department of Schools, by the Director of the Summer School.

COUPON OF CREDIT.

For regular work in the Summer School for six weeks, a "Coupon of Credit" may be obtained which will entitle the holder to an increase of $1.00 a month in his salary as a teacher. Summer School students desiring this "Coupon of Credit" must make application to the Registrar of the University before leaving Morgantown.

TEXT-BOOKS.

All text-books needed may be obtained at the University book store, in Martin Hall.

MATIN SERVICES.

The School of Music Faculty, under the direction of Louis Black, will give a series of weekly musical recitals during the first six weeks of the session every Wednesday at 11:00 o'clock. These recitals will be free. No classes will be held during that hour.

INFORMATION.

For information concerning any department of the Summer School, write to the Director.

WAITMAN BARBE, LITT.D.,
MORGANTOWN, W. VA.

FRANK BUTLER TROTTER, LL.D.,
PRESIDENT OF THE UNIVERSITY.

SCHEDULE OF COURSES

8:00 A. M.

Course, Title and Number.	Weeks.	Hours Credit.	Instructor.	Room.
General Mineralogy (Geology 6)	6	2	Brown	111 M. H.
Modern European History (History 14 S)	12	4	Chitwood & Higby	43 W.
General Survey of English Literature (English 27)	6	2	Armstrong	31 W.
Library Science	6	2	Arnett	L.
Principles of Learning and Teaching (Education 10 S)	6	2	Jones	8 M
Methods of Handling Educational Teaching of English in Secondary School (Education 18)	6	2	Cavins	16 W.
Data (Education 26 S)	6	2	Cavins	16 W.
Method in Primary English (English A)	6	¼ unit	Kaps	20 S.
Social Psychology (Sociology 2)	6	2	Reuter	24 W.
Selection and Preparation of Foods (Home Ec. 61 S)	6	2	Colwell and Schmidt	112 O. H.
Home Furnishings (Home Ec. 14 S)	6	2	Colwell and Schmidt	114 O. H.
Nature Study (Agricultural Education B)	6	¼ unit	Abbey	46 W.
Anatomy of Vertebrates (Zool. 2)	6	4	Reese	49 W.
General Botany (Botany 3)	12	4	Spangler	309 O. H.
First Year Latin (Latin A)	6	4	Cannaday	29 W.
Elementary French (French 1)	12	5	Darby and Brunetti	19 W.
Grammatical Review and Teachers' Problems (French 23 S)	6	2	Darby	18 W.
Physiology, Hygiene and Sanitation (Physiol. 1)	6	2	Morse	100 M. B
Sight Reading and Dictation (Public School Music 1)	6	¼ unit	Johnson	8 S. M.
Farm Crops (Agriculture 2)	12	4	Salter and Stephenson	O. H.
Elementary Pomology (Hort. 1)	12	3	Shaw and Knowlton	O. H.
Introductory Floriculture (Hort. 26 S.)	12	3	Shaw and Knowlton	O. H.
Industrial Arts and Manual Training (223 S)	6	2	Leland	114 M. H.

9:00 A. M.

Course, Title and Number.	Weeks.	Hours Credit.	Instructor.	Room.
Physical Geography (Geology 11 S)	6	2	Brown	111 M. H.
Plane and Spherical Trig. (Math. 6 S)	12	4	Eiesland and Hodgson	9 W.
Recent History of U. S. (History 24 S)	6	2	Shortridge	20 L.
Shakespeare (English 28 S)	6	2	Armstrong	31 W.
Types of Literature (English	6	2	Barbe	11 S.
Milton (English 29)	6	2	Cox	32 W.
Composition and Rhetoric (English 1)	12	3	Pollock	30 W.
How Children Learn (Education 32 S)	6	2	Deahl	17 W.
Education Tests and Measurements (Edu. 30 S)	12	4	Cavins	16 W.
Method in Primary English (Education A)	6	½ unit	Kaps	20 S.
Principles of Economics (Economics 15 S)	6	2	Hall	20 W.
Immigration and Americanization (Sociology 9 S)	6	2	Reuter	24 W.
General Agriculture (Agri. Education A)	6	½ unit	Abbey	46 S.
General Bacteriology (Botany 10)	12	3	Spangler	309 O. H.
Caesar (Latin B)	6	4	Cannaday	29 W.
France and the French (French 5 S)	12	4	Darby	18 W.
Music Appreciation (Public School Music 2)	6	¼	unit Johnson	8 S. M.
Feeding Farm Animals (Animal Husbandry 42)	12	2	Livesay	O. H.
Dairy Husbandry (21)	12	3	Anthony and Henderson	O. H.
Advanced Organic Chem. 23 S)	6	2	Clark	32 S.
Principles of Industrial Education (220 S)	6	2	Leland	114 M. H.
Forging (229 S)	6	2	West	2 M. H.

10:00 A. M.

Elementary Algebra (Math. A)	12	½ unit	Eiesland and Hodgson	8 W.
College Algebra (Math. 3)	12	3	Eiesland and Hodgson	9 W.
Continental Europe in the 19th 19th Century (History 15 S)	6	2	Chitwood and Higby	43 W.
Contemporary Europe (His. 50 S)	6	2	Chitwood and Higby	41 W.
American History (History A)	6	½ unit	Shortridge	20 L.
The Short Story (English 38)	6	2	Armstrong	31 W.
The Augustan Age (Eng. 31 S)	6	2	Cox	32 W.

Course, Title and Number.	Weeks.	Hours Credit.	Instructor.	Room.
General Survey of English Literature (English 26)	6	2	Pollock	30 W.
Exposition (English 19 S.)	6	2	Pollock	30 W.
Vocation Guidance for Teachers (Education 34 S.)	6	2	Jones	8 M.
Education as Scientific Study (Education 33 S)	6	2	Deahl	17 W.
Experimental Education (Education 27)	12	4	Cavins	16 W.
Labor Problems (Economics 11 S)	6	2	Hall	20 W.
Community Organization (Sociology 20 S)	6	2	Reuter and Worthington	21 W.
Case Work (Sociology 21 S)	6	2	Reuter and Worthington	21 W.
Elementary Dietetics (Home Ec. 24 S)	6	2	Colwell and Schmidt	208 O. H.
Teaching and Administration of Vocational Agriculture (Agricultural Edu. 36)	6	3	Allen and Rouzer	O. H.
Introductory Physics (Physics 1)	6	3	Waggoner	14 M. H.
Problems in Physics (Physics 55)	6	2	Jolliffe	6 M. H.
Latin 1 or 3	6	2	Cannaday	29 W.
19th Century French Lit. (French 18 S)	12	4	Darby and Brunetti	19 W.
Applied Conversation (French 24 S)	6	2	Darby	18 W.
Breeding Farm Animals (Animal Husbandry 43)	12	2	Livesay	O. H.
Rural Economics	12	3	Dadisman	O. H.
Marketing of Agriculture Products	6	2	Dadisman	O. H.
Farm Poultry	12	3	Andrews	O. H.
Vocational Education (221 S)	6	2	Leland	114 M. H.
Theoretical and Analytical Chemistry 24 S)	6	2	Hill	12 S.
11:00 A. M.				
General Geology (Geo. 2)	6	2	Brown	111 M. H.
Plane Geometry (Math. B)	12	¼ unit	Eiesland and Hodgson	9 W.
Solid Geometry (Math. 2)	12	3	Eiesland	9 W.
History of England to the Tudors (History 17 S)	6	2	Chitwood and Higsby	43 W.
Division and Reunion (History 23 S)	6	2	Chitwood and Higby	21 W.
American Social and Economic History (His. 29 S)	6	2	Shortridge	20 L.
The Modern Drama (Eng. 54 S)	6	2	Cox	32 W.
High School English (Eng. A)	12	½ unit	Pollock	30 W.
Supervision of Instruction and Directed Teaching (Edu. 11 S)	6	2	Deahl	17 W.

Course, Title and Number.	Weeks.	Hours Credit	Instructor.	Room.
Hygiene of the Child and of Instruction (Education 35 S.)	6	¼ unit	Kaps	20 S.
Method in Arithmetic (Edu. B.)	6	2	Jones	8 M.
Rural Sociology (Sociol. 10 S)	6	2	Hall	20 W.
Economic Zoology (Zool. 21)	6	2	Reese	49 W.
Physics for Teachers (Physics A)	6	2	Waggoner and Jolliffe	12 M. H.
Teaching of High School Latin (Latin 19 S)	6	2	Cannaday	29 W.
French Drama 19th Century (French 6 S)	6	2	Brunetti	19 W.
Introductory Animal Husbandry (Animal Husbandry 40)	12	4	Livesay	O. H.
General Entomology (Ent. 1)	12	4	Peairs	O. H.
General Inorganic Chem. (1)	12	4	Clark and Hill	32 S.

1:00 P. M.

Physiological Chemistry (Physiology 10 S)	12	5	Morse	2110 M. B.

1:30 P. M.

Selection and Preparation of Foods (Home Ec. 62 S)	6	2	Colwell and Schmidt	112 O. H.
Elementary Clothing (Home Ec. 42 S)	6	2	Colwell and Schmidt	214 O. H.
Introductory Physics Lab. (Physics 2)	6	1	Jolliffe	12 M. H.
Public School Music Methods (Public School Music 3)	6	¼ unit	Johnson	8 S. M.

2:00 P. M.

Industrial Arts and Manual Training (224 S)	6	2	Grow	212 M. H.
Architectural Drawing (225 S)	6	2	Grow	212 M. H.
Elementary Manual Training (226 S)	6	2	Seaman	203 M. H.
Sheet Metal Work (227 S)	6	2	West	4 M. H.
Machine Shop Practice	6	2	Gill	101 M. H.
Quantitative Analysis (Chem. 6 and 7)	6	2	Hill	12 S.

3:00 P. M.

School Problems in Villages and Small Towns	1		Deffenbaugh	C

4:00 P. M.

Course, Title and Number.	Weeks.	Hours Credit.	Instructor.	Room.
Theory of Functions of Complex Variables	12		Eiesland and Hodgson	9 W.

Hours To Be Arranged

Analytic Geometry (Math. 5 S)	12	*	Eiesland and Hodgson	
Differential and Integral Calculus (Math. 7 S)	12	5	Eiesland and Hodgson	9 W.
The Mathematical Theory of Investment (Math. 23 S)	6	2	Eiesland and Hodgson	4 W.
Differential Equations (Math. 9)	12	3	Eiesland and Hodgson	4 W.
Non-Euclidean Geometry (Math. 26)	12	3	Eiesland and Hodgson	4 W.
Physiological Chemistry (11 S)	12	3	Morse	201 M. B.
Public School Voice Training (Public School Music 4)	6		Johnson	8 S. M.
Herd and Flock Book Study (Animal Husbandry 47)	12	2	Livesay	O. H.
Systematic Entomology (Ent. 4)	12	*	Pearis	O. H.
Advanced Farm Management	6	2	Dadisman	O. H.
Horticultural Research	12	2	Shaw and Knowlton	O. H.
Experimental Methods in Horticulture	12	2	Shaw and Knowlton	O. H.
Mechanical Drawing	12	*	Grow	212 M. H.
Machine Tool Work	12	*	Gill	101 M. H.

*Credit according to amount of work done.

GRADUATE COURSES.

The following courses may be taken for graduate credit by special arrangement with the instructors. (No course open to freshmen and sophomores may be taken for graduate credit):

8:00

Education 10—Principles of Learning and Teaching.
Education 26—Scientific Methods of Handling Educational Data.

9:00

English 29—Milton.
Chemistry D—Advanced Organic Chemistry.
History 24—Recent History of the United States.
Education 30—Educational Tests and Measurements.

10:00

History 15 S—Continental Europe in the Nineteenth Century.
History 50 S—Contemporary Europe, 1870-1919.
English 31—The Augustan Age.
Farm Economics 2—Rural Economics.
Education 33 S—Education as a Scientific Study.
Education 18—The Teaching of English in Secondary Schools.
Education 27—Experimental Education.

11:00

English 54—The Modern Drama.
Education 11—Supervision of Instruction and Directed Teaching.

4:00

Mathematics 17—Theory of Functions of Complex Variables.

Hours To Be Arranged.

Mathematics 9—Differential Equations.
Mathematics 26—Non-Euclidean Geometry.
Research Work in Animal Husbandry.
Horticulture 12—Horticultural Research.
Horticulture 20—Experimental Methods in Horticulture.

THE DIVISION OF MILITARY SCIENCE AND TACTICS

THE FACULTY.

FRANK BUTLER TROTTER, A.M., LL.D., *President of the University.*

HARLAN L. MUMMA, Captain Infantry, United States Army, *Professor of Military Science and Tactics and Commandant of Cadets.*

HELMER SWENHOLT, Captain of Engineers, *Assistant Professor of Military Science and Tactics and Commanding Officer of the Engineer Unit.*

WINFIELD EBERHART, First Sergeant Infantry, *Assistant to the Professor of Military Science and Tactics.*

JOSEPH GALT, First Sergeant Infantry, *Assistant to the Professor of Military Science and Tactics.*

HARDY J. STORY, Master Engineer, Corps of Engineers, *Assistant to the Professor of Military Science and Tactics.*

GILMER M. BELL, First Lieutenant Infantry, D. O. L., United States Army, *Assistant to the Professor of Military Science and Tactics.*

West Virginia University being one of the beneficiaries of the Act of Congress of 1862, instruction in military tactics is made compulsory for the freshman and sophomore years.

The Division is in charge of an officer of the United States Army, detailed by the War Department, as professor of military science and tactics. The Cadet Corps is inspected once each year by an officer of the General Staff of the Army and several times during each year by the District Military Inspector.

An Infantry Unit, Senior Division, of the Reserve Officers' Training Corps was established by the War Department on December 12, 1916. An engineer unit was established in 1919.

REQUIRED WORK IN MILITARY SCIENCE.

Extract from Chapter Forty-five of the Code of West Virginia.

Section 140. **Military Training.** Male students of suitable age in the university shall be required, under such regulations as the State Board of Education shall prescribe, to enroll in the department of military science. Said students shall serve for the time required by said regulations and shall be entitled to such special privileges and immunities as the State Board of Education may determne. The State Board of Education shall have authority to accept appropriations, material and other benefits from the Federal Government on account of any federal law providing for aid to the West Virginia University for giving instruction in military science and to co-operate as far as practicable with the Federal Government for such purpose.

Order of the State Board.

The following order has been adopted by the State Board of Education:

Ordered that all male students, with the exceptions hereinafter named, enroll themselves in the Division of Military Science and follow diligently the course of instruction provided therein. Proficiency in this course shall be required for graduation.

Practical and theoretical instruction shall be given four hours per week throughout the school year to all students except those in the advanced class who will be required to take five hours per week. A credit for one hour shall be given for each semester's work satisfactorily completed. Such credit shall be included in the computation of the student's standing at the end of each semester.

Every student enrolled in the Division of Military Science, shall at the time of his enlistment deposit with the financial secretary of the Unversity $10.00 to cover any loss or damage of books or government property occasioned through fault or neglect on the part of the cadet. This sum will be refunded to cadet at expiration of school term upon presentation to financial secretary of certificate of property clearance.

The following classes of students shall not be required to enroll themselves in the Military Division, but may elect to do so:

(1) All students who are citizens of a foreign country and do not intend to become citizens of the United States.

(2) All students who at date of entrance in the University are more than twenty-three years of age.

(3) All graduate students.

(4) All students whose studies are entirely in the School of Music.

(5) All students who are taking only the short course, or the special winter course, or agricultural extension work in the College of Agriculture.

(6) All students who are classified as juniors or seniors in the various colleges, and all who have completed two years' service in the military division.

(7) All students who are physically unable to perform military duty.

A board, to be known as the military and gymnasium board, shall be composed of the commandant of cadets, the director of physical training, and a surgeon of the corps of cadets, designated by the President. This board shall act upon claims for exemption from military service.

Students who claim exemption under any one of the first six cases must, within seven days after their registration in the University, present to the commandant, in writing, their request accompanied by such evidence as is relied upon to support the request. A failure to make the request within the stated time shall bar the student from claiming exemption.

Applicants for exemption on the ground of physical disability shall be carefully examined by a surgeon of the corps. A fee of one dollar to be paid to the examining surgeon shall be charged for such examination.

Students exempted under the seventh case shall, upon recommendation of the military and gymnasium board be required to register for such physical training as they can take until they have earned a credit equal to that given for the prescribed military work.

In none of the preceding cases shall a student absent himself until his application has been acted upon.

It shall be the duty of the commandant to notify the chairman of the committee on classification and grades whether the military and gymnasium board exempts a student or recommends that he be required to register for other work in place of military drill.

Whenever the cause for exemption shall no longer exist, it shall be the duty of the student to present himself for drill at the next drill period.

Students may appeal from the decision of the commandant of cadets or the military and gymnasium board, in which case the appeal shall be decided by the council of administration.

All cadet officers taking military instruction as an elective shall be, as to their tuition fees, on the same basis as state cadets.

Other Regulations Concerning Cadets.

A uniform for each cadet is furnished by the Government. The cadet is required to wear this uniform at drill.

Cadets who are bona fide residents of West Virginia are known as state cadets. A state cadet is allowed free stationery and the use of text books to the value of $10.00 a year. He pays no matriculation, tuition, or contingent fees to the University. If he graduates from any department of the University while a members of the cadet corps he is allowed to retain his text-books.

Cadets who are members of the military band receive the same allowances as State cadets.

Any cadet who is absent without leave for more than ten days will be dropped from the rolls of the division of Military Science. He cannot re-enter the University without special permission.

SPECIAL REWARDS FOR MILITARY EXCELLENCE

The names of the most distinguished cadets of the graduating class are sent to the Adjutant General of the Army and to the Adjutant General of the State.

All graduates of the Military Division are eligible, within five years after graduation, to commissions as first lieutenants in the Organized Militia of the State, without examination.

The State Board of Regents offers the following medals as special rewards for excellence in military training:

(1) To the cadet having the highest record for shooting on the University Rifle Team, a gold medal; (2) To the cadet having the second highest record for shooting on the University Rifle Team, a silver medal; (33 To the cadet having the highest aggregate score at Company Team Rifle Competition, a gold medal: (4) To the cadet having the record for Military Training and Discipline, a gold medal; (5) To the cadet who shall write the best essay on preparation against war, fifty dollars.

Through the kindness of Mr. George C. Baker, of Morgantown, a prize of $15.00 in gold is offered to the best trained private in the corps and $10.00 for the second best private. Both the military for corps and $10.00 for the second best private. Both the military record for the year and the marks in the competitive drills of commencement week will be used in determining the award.

ARMORY.

The Armory (60 by 120 feet) is used as a drill hall during inclement weather. This building is the home of the cadet corps, and all entertainments given by them are held therein, under the supervision

MILITARY BAND.

A military band of sixty pieces is maintained as a part of the Cadet Corps. Band instruments are furnished by the Government and instruction is given in band music. Band cadets are also instructed in military drill to include the school of the soldier and of the squad.

ADMINISTRATION AND INSTRUCTION.

For the purpose of administration and drill the cadet corps is organized as a Battalion of infantry: Field, Staff, Band, and four companies.

The work in military science is taken in connection with other University work, and requires about four hours each week. The course of instruction is intended to fit all who graduate therein to perform efficiently the duties of officers in the Officers' Reserve Corps, the Organized Militia of West Virginia, or of volunteers. The winter months are devoted to theoretical instruction in tactics and other military subjects, together with practical instruction in drill and in gallery practice.

COURSES OF INSTRUCTION.

The following courses in military science and tactics are offered. All instruction is under the supervision of the commandant of cadets who is assisted by the senior cadet officers.

FRESHMAN YEAR—BASIC COURSE FOR ALL ARMS.

Subject.	Theory Hrs.		Practice Hrs.
. Organization	½		1
2. Military Courtesy and Discipline	1		3
3. Drill			
Close and Extended Order Drill			
1. School of the Soldier			
2. School of the Squad	10		25
3. School of the Platoon			
4. Company & Battalion			
Ceremonies			5
Marching			4
4. Care and Handling of Arms and Equipment	1		10
5. Small Arms Firing	2		12
1. Preliminary Instruction			
2. Pointing and Aiming Drills			
3. Sighting Drills & Exercises			
4. Gallery Practice			
6. Personal Hygiene, First Aid and Sanitation	2		2
7. Interior Guard Duty	2		3
8. Minor Tactics	½		5
1. Advance Flank and Rear Guards			
2. Outposts			
3. Patrols			
4. Approach Marches and Deployments			
5. Combat			
9. Morale	2		
10. Physical Training	—		—
11. General		17	
Total	21	17	70—Grand Total 108

SOPHOMORE YEAR—BASIC COURSE FOR ALL ARMS.

Subject.	Theory Hrs.	Practice Hrs.
1. Organization	½	1
2. Military Courtesy and Discipline		2
3. Drill.		
Close and Extended Order Drill		
1. School of the Soldier		
2. School of the Squad		
3. School of the Platoon	5	12
4. School of the Company		
5. School of the Battalion		
Ceremonies		5
Marching		4
4. Care and Handling of Arms and Equipment	1	10
5. Small Arms Firing	2	12
1. Preliminary Instruction		
2. Pointing and Aiming Drills		
3. Sighting Drills		
4. Gallery Practice		
5. Preliminary Instruction Pistol		
6. Pistol Practice		
7. Musketry		
6. Personal Hygiene, First Aid and Sanitation	0	2
7. Interior Guard Duty		2
8. Minor Tactics	½	5
1. Advance Flank and Rear Guards		
2. Outposts		
3. Patrols		
4. Approaches, Marches and Deployments		
5. Combat		
9. Morale	1	
10. Physical Training		
11. Liaison for all arms	2	
12. Topography and Map Reading	2	1
13. Signalling		2
Totals	14	58—Grand Total 72

SOPHOMORE YEAR—INFANTRY SPECIAL

Subject.	Theory Hrs.		Practice Hrs.	
14. Drill				
Close and Extended Order School of the Soldier School of the Squad School of the Platoon School of the Company			9	
Bayonet			4	
Hand Grenade			4	
15. Field Engineering	4		2	
16. Orders and Messages	1		2	
17. General		10*		
Totals	5	10	21—Grand Total	36

SOPOHMORE YEAR—ENGINEER SPECIAL

Subject.	Theory Hrs.	Practice Hrs.	
14. Military Map Making and Map Reading		12	
15. Organization	4		
16. Military Bridges and River Crossings	6		
17. Fortification	6		
Camouflage Trenchfire and Communication Accessories, Revetment, Observation Posts, etc. Machine Gun Emplacements Obstacles Shelter Organization of the Ground			
18. Roads and Communications, Opening up New Communications, Repair of Worn and Shell Torn Roads	8		
Totals	24	12—Grand Total	36

JUNIOR YEAR—ADVANCED COURSE FOR ALL ARMS.

Subject.	Theory Hrs.		Practice Hrs.	
1. Camp Sanitation, Care of Troops in Field	1		0	
2. Minor Tactics	7		30	
1. Advance Guards				
2. Outposts				
3. Patrols				
4. Approach Marches and Deployments				
5. Combat of Small Units				
6. Orders and Messages				
7. Small Map Problems				
3. Liaison for all Arms	2			
4. Topopgraphy	2		6	
5. Field Engineering	2			
1. Tasks and Working Parties				
2. Hasty Entrenchments				
3. Obstacles				
4. Material				
6. Law	10			
1. Common				
2. Military				
7. Military Policy	4			
8. General		18		
Totals	28	18	26—Grand Total	72

JUNIOR YEAR—INFANTRY SPECIAL

Subject.	Theory Hrs.	Practice Hrs.
Close and Extended Order Drill Automatic Rifles Rifle Grenades 37 m/m Guns Light Mortars Machine Guns	6	30
Ceremonies		5
Marching		4
10. Care and Handling of Arms and Equipment		10
11. Small Arms Firing 1. Preliminary Instruction 2. Pointing and Aiming Drills 3. Sighting Drills 4. Gallery Practice 5. Coaching 6. Automatic Rifles 7. Rifle Grenades	2	12
12. Personal Hygiene, First Aid and Sanitation	2	3
13. Interior Guard Duty	2	3
14. Topography		8
15. Field Engineering	2	8
16. Orders and Messages		2
17. Military Courtesy and Discipline	1	3
18. Minor Tactics 1. Advance Flank and Rear Guards 2. Outposts 3. Patrcls 4. Approach Marches and Deployments 5. Combat		5
Totals	15	93—Grand Total 108

JUNIOR YEAR—ENGINEER SPECIAL

Subject.	Theory Hrs.	Practice Hrs.
9. Military Map Making and Map Reading		12
10. Light Railways Location, Construction, Maintenance Operation	4	
11. Explosives, Demolitions and Mine Warfare	4	
12. Fortifications	16	
13. Academic Engineering Courses of Military Value	72	
Totals	96	12—Grand Total 108

SENIOR YEAR—ADVANCED COURSE FOR ALL ARMS

Subject.	Theory Hrs.		Practice Hrs.	
1. Minor Tactics			22	
1. Combat of Small Units				
2. Scouting and Patrolling				
3. Flank Guards				
4. Detached Posts				
5. Rear Guards				
6. Outposts				
2. Topography			7	
3. Field Engineering	8			
1. Nomenclature and Construction of Trenches				
2. Trench Equipment and Expedients				
3. Obstacles				
4. Observation Posts				
5. Camouflage				
6. Bridges				
7. Explosives and Demolitions				
8. Cordage				
4. Company Administration	5			
1. Military Correspondence				
2. Company Records and Returns				
3. Property Responsibility				
4. Accounting for Company Funds				
5. Duties and Responsibilities of Young Officers in Management of Men				
5. Military Policy, History, Economics	6			
6. Military Law	5			
1. Courts Martial				
2. Rules of Land Warfare				
7. Hippology	4			
8. General		15		
Totals	28	15	29—Grand Total	72

SENIOR YEAR—ENGINEER SPECIAL

Subject.	Theory Hrs.	Practice Hrs.
9. Military Map Making and Map Reading		12
10. Functions and Staff Relations of Engineers with Particular Relations to Special Engineer Services	4	
11. Map Problems Involving Engineer Problems encountered during war	7	
12. Terrain Exercises involving Engineer Problems encountered during war		8
13. Organization and Administration of Engineering Projects	1	
14. Thesis on Military Engineering Subjects	4	
15. Academic Engineering Courses of Military Value	72	
Total	88	20—Grand Total 108

SENIOR YEAR—INFANTRY SPECIAL

Subject.	Theory Hrs.	Practice Hrs.
9. Infantry	10	20
Close and Extended Order Drill		
Tactical Exercises		
Musketry		
Ceremonies		5
Marching		4
10. Care and Handling of Arms and Equipment		10
11. Small Arms Firing	2	12
1. Preliminary Instruction		
2. Pointing and Aiming Drills		
3. Sighting Drills		
4. Gallery Practice		
5. Coaching		
6. Automatic Rifles		
7. Rifle Grenades		
8. Pistol Practice		
12. Personal Hygiene, First Aid and Sanitation	1	2
13. Interior Guard Duty	2	3
14. Topography and Map Reading		8
15. Orders and Messages	1	2
16. Tactical Walks		16
17. Military History		10
Total	26	82—Grand Total 108

DEGREES, DIPLOMAS AND PRIZES

Fifty-second Annual Commencement, June 19, 1919.

CANDIDATES FOR DEGREES 1919

Bachelor of Arts.

Lucy Ellen Baker	Morgantown
Harold James Barrett	Cameron
Ruth Batten	Morgantown
Bess Liter Beller	Morgantown
Rebecca Elizabeth Berry	Sutton
Olive Brown	Grafton
Virginia Brown	Morgantown
Elizabeth Conaway	Fairmont
Myrtle Louise Creighton	Parkersburg
Luella Cumley	Morgantown
Anna Belle Darling	Morgantown
Arlynne Agnes Fisher	Reynoldsville, Pa.
Claire Beatrice Fisher	Reynoldsville, Pa.
Laura Evangeline Fries	Berkeley Springs
Neva Lucile Fuss	Hedgesville
Bernard Harold Gilmore	Washington, D. C.
Theda Rae Glover	Morgantown
Mary Elizabeth Goucher	Toronto, Ohio
Golda Elizabeth Hall	Morgantown
Jennie Harshbarger	Cumberland, Md.
Maud Hull	Freemansburg
William Samuel Jones	Sutton
Mildred Clayton Keefer	Grafton
Elizabeth May Koletka	Huntington
Florence Missouri Lantz	Jacksonburg
Stella Mabel Lewis	Sutton
Sallie Fogg Loudin	Morgantown
Michael Harper Mauzy	Franklin
Merle Carter Mayfield	Morgantown
Ruth Eliza McCombs	Wheeling
Mayme Edith Morton	Webster Springs
Helen Hannas Pownall	Keyser
Martha Pauline Pratt	Morgantown
Margaret Dickey Richards	Fairmont
Margaret Clara Roberts	Morgantown
Clarence Roby	Petersburg
Mary Bernice Scott	Morgantown
Mary McCulloh Shurtleff	Morgantown
Clifford Everett Wagner	Williamstown
Clara Garten Walker	Charleston
Harry Edwin Whetzell	Elkins
Minter Lowther Wilson	Cairo

Bachelor of Science.
(Major in Medicine)

EVA MOYA GODDIN.....ELKINS
HAROLD HARRY HOWELL.....PHILIPPI
CHARLES ROYALL KESSEL.....RIPLEY
RUSSELL SMITH MCGINNIS.....HARRISVILLE
BLANCHE BONSACK MILLER.....EGLON
A.B., Blue Ridge College, 1916.
HAROLD CLAYTON MILLER.....EGLON
JOHN WILLIAM NIEDERMYER.....WHEELING
JOSE RODRIGUEZ PASTOR.....CAVEY, PUERTO RICO
BENJAMIN MORTIMORE STOUT.....CLARKSBURG
FRANK MYERS TRUMP.....MARTINSBURG
ELDON BRYANT TUCKER.....MORGANTOWN

Bachelor of Laws.

EDGAR CURRAN GLASS.....WELLSBURG
DONALD GRANT LAZZELLE.....MORGANTOWN

Bachelor of Science in Mechanical Engineering.

OTTO HAZELTON HENRY.....MORGANTOWN

Bachelor of Science in Electrical Engineering.

JAMES MICHAEL CONNOR.....MORGANTOWN
FLOYD LESLIE DAVIS.....PIEDMONT
HUGO BRUCE DULING.....MORGANTOWN

Bachelor of Science in Engineering of Mines.

KURAZO HIJIKATA.....KOKURA, JAPAN
KARL LYON MARSHALL.....MORGANTOWN

Bachelor of Science in Agriculture.

ERNEST ANGELO.....PARSONS
ALAN KEYSER CARROLL.....MASONTOWN
HAROLD FOSTER DEPUE.....SPENCER
WILLIAM JOSEPH STURGIS.....MORGANTOWN
RUDOLPH WINKLER.....CHARLESTON

Bachelor of Science in Home Economics.

RACHEL ROSE BERRY.....HEATERS
RUTH WILKINSON CROOKS.....RAVENSWOOD
IDA BELLE DORSEY.....MOUNT LOOKOUT
TULA ROSE GIVENS.....KEENAN
VERNIA FAY GRIFFITH.....SPANISHBURG
GERTRUDE ELIZABETH KIGER.....MORGANTOWN
EDNA MAY MCCLEARY.....SHERRARD
CUBA LODEMA MORGAN.....SAINT MARYS
VIOLET PEARL NOLAND.....DAVIS
BESSIE SMENNER.....CUMBERLAND, MD.

Graduate in Pharmacy.

ANTHONY SCARNECCHIA ..... BENWOOD

Artist's Diploma, Voice.

LUCY BELTZHOOVER ..... MORGANTOWN
OCIE HARDESTY SHEPPARD ..... MANNINGTON

Artist's Diploma, Piano.

HELEN DORIS DEVORE ..... PARKERSBURG
MABELLE WHETSELL ..... MORGANTOWN

Teacher's Certificate, Public School Music.

ALMENA JOSEPHINE BUNCE ..... FRANKLIN, PA.
IONE ELIZABETH HALL ..... SUTTON
MARY GEM HUFFMAN ..... PARKERSBURG
ALTA FLORA JONES ..... MORGANTOWN

HONORARY DEGREES[1]

GEORGE WESLEY ATKINSON ..... CHARLESTON, W. VA.
NEWTON DIEHL BAKER ..... WASHINGTON, D. C.
JAMES FREDERIC BROWN ..... CHARLESTON, W. VA.
JOHN WILLIAM DAVIS ..... CLARKSBURG, W. VA.
ARETAS BROOKS FLEMING ..... FAIRMONT, W. VA.
WILLIAM ELLSWORTH GLASSCOCK ..... MORGANTOWN
HENRY DRURY HATFIELD ..... HUNTINGTON, W. VA.
MATTHEWS SIMPSON HUGHES ..... PORTLAND, OREGON
WILLIAM ALEXANDER MACCORKLE ..... CHARLESTON, W. VA.
EARL WILLIAM OGLEBAY ..... CLEVELAND, OHIO
LIVIA SIMPSON POFFENBARGER ..... CHARLESTON, W. VA.
ALBERT BLAKESLEE WHITE ..... PARKERSBURG, W. VA.
ISRAEL CHARLES WHITE ..... MORGANTOWN
DANIEL WILLARD ..... BALTIMORE, MD.

[1] To mark the Semi Centennial year of the West Virginia University (1916-17) the Board of Regents conferred the honorary degree of Doctor of Laws upon the distinguished citizens named below. Owing to conditions due to the war the public ceremonies connected with conferring these degrees were postponed until the annual commencement of 1919.

PRIZES AND HONORS.

The Tax Commission Prize.

ANAGRACE BELL COCHRAN, *Junior* ..... MORGANTOWN

Phi Beta Kappa.

CLAIRE BEATRICE FISHER ..... REYNOLDSVILLE, PA.
OLIVE BROWN ..... GRAFTON
MARY BERNICE SCOTT ..... MORGANTOWN
ELIZABETH MAY KOLETKA ..... HUNTINGTON
MARTHA PAULINE PRATT ..... MORGANTOWN
BERNARD HAROLD GILMORE ..... WASHINGTON, D. C

ADDRESS LIST OF FACULTY AND STAFF

NOTE: The date following the name indicates the year of appointment to the present position. When a second date is given it indicates the year of first appointment on the University staff. The telephone number follows the Morgantown street address.

Abbott, Elizabeth B.; Matron of the Woman's Hall; 1919; Woman's Hall; 516R.

Alger, Kathryn, A.B., B.S.Agr.; in charge of Girls' Club Work, Agricultural Extension Staff; 1919; 1917; 120 High Street; 1204.

Allen, Edward Switzer, Ph.D.; Assistant Professor of Mathematics; 1919; 479 McLane Ave.

Allen, Howard Bushnell, M.S.; Assistant Professor of Agricultural Education; 1920; 542 Spruce Street.

Ambler, Charles Henry, Ph.D.; Professor of History (Extension); 1917; Y. M. C. A., Parkersburg, W. Va.

Andrews, Edgar Lewis, B.S.Agr., Associate Professor of Poultry Husbandry and Assistant Poultryman, Experiment Station; 1917; 1913; East Willey Street; 880M.

Angelo, Ernest, B.S.Agr., Instructor in Horticulture and Assistant Horticulturist in the Experiment Station; 1919; 23 Overhill Street; 1392J.

Ankrom, Leslie, B.S.,Agr.; Instructor in Horticulture and Assistant Horticulturist; Experiment Station, 1917; died, December, 1919.

Anthony, Ernest Lee, M.S.,; Professor of Dairy Husbandry and Head of the Department of Dairy Husbandry in the Experiment Station; 1919; State Dairy Farm; 514R.

Arkin, Aaron, Ph.D., M.D.; Professor of Pathology and Medical Bacteriology; 1913; 519 Front Street; 267.

Armstrong, Robert Allen; A.M., L.H.D.; Professor of English Language and Literature; 1903, 1893; 732 University Terrace; 698R.

Arnett, Lonna Dennis, Ph.D.; Librarian; 1910; 170 McLane Ave.; 484. Professor of English; 1919, 1895; 445 High Street; 348R.

Arnold, Archie Freeland; Assistant in Woodworking; 1919; 42 Stewart Street.

Atkeson, Thomas Clark, Ph.D.; Professor of Animal Husbandry, Emeritus; 1914; Washington, D. C.

Atwood, Horace, M.S.Agr.; Poultryman, Experiment Station; 1916; 1897; 410 Charles Ave.; 455J.

Bancroft, Geo. Ross, Ph.D.; Assistant Professor of Chemistry; 1920.

Barbe, Waitman, A.M., Litt.D.; Director of the Summer School and Professor of English; 1919, 1895; 445 High Street, 348 R.

Berg, Anthony, B.S.; Assistant Plant Pathologist, Experiment Station; 1913; 36 University Driveway; 667M.

Bergy, Gordon Alger, Ph.C., M.S.; Assistant Professor of Pharmacy; 1916; 308 Park Street.

Billingslea, Jean; Student Assistant in Applied Design; 1919; 120 High Street; 1204.

Bishop, Charles Edward, Ph.D.; Professor of Greek Language and Literature; 1911; 151 McLane Ave.; 563W.

Black, Louis; Director of the School of Music; 1909; 253 McLane Ave.; 495.

Blair, Thomas Jackson, B.S.C.E.; Instructor in Surveying; 1918; 305 Willey Street; 1196M. Resigned, Feb. 1, 1920.

Blandford, James Benson; Horticultural Superintendent; 1919; 1913; 98 Gaston Ave.; 311J. Resigned, March 15, 1920.

Bledsoe, Rosewell Page, M. S.; Assistant Professor of Agronomy and Assistant Agronomist Agricultural Experiment Station 1920.

Boomsliter, George Paul, M.S.; Professor of Mechanics; 1920; 48 Wilson Avenue.

Bonar, Martin Loxley, M.D.; Associate Professor of Pharmacology; 1920.

Boughner, Jennie DeLawder, A.B.; Assistant Librarian; 1915; 392 Willey Street; 984J.

Bragonier, Arthur Taylor, B.S.C.E.; Instructor in Surveying; 1920; 118 Willey Street; 221J.

Bray, Charles McChesney, M.D.; Assistant in Physical Diagnosis; 1919; New Dominion Building; 123.

Brooks, Chandler Linn; Superintendent of Buildings and Grounds; 1917; 394 Willey Street; 337R.

Brown, Charles Kepler; Instructor in Mining (Extension); 1919; Wellsburg, W. Va.

Brown, Samuel Boardman, A.M.; Professor of Geology and Mineralogy; 1892, 1890; 640 High Street; 796J.

Bunce Almena Josephine; Student Assistant in Music; 1919; 45 Stewart Street; 783W.

Burke, George Washington, B.S.; Assistant Chemist, Experiment Station; 1919, 1916; 16 Overhill Street; 193W.

Callahan, James Morton, Ph.D.; Professor of History and Political Science and Dean of the College of Arts and Sciences; 1916; 1902; 136 Willey Street; 586J.

Callen, Alfred Copeland, E.M., M.S.; Professor of Mining Engineering; 1917; 45 Jones Ave.; 754W.

Cannaday, Charles Benton, A.M.; Professor of Latin; 1916; 1914; 12 Hagan's Ave.; 1167M.

Cantrall, Charles McKee, A.M., D.D.; Professor of Philosophy and Psychology; 1919; 88 Beverly Ave.; 1186J.

Carl, William John; Instructor in Foundry Practice; 1920.

Carlin, Lea, A.B., LL.B.; Assistant Professor of Law; 1916; 27 Wilson Ave.; 958R.

Cather, Carl Henry, B.S.M.E.; Instructor in Drawing; 1919; 1916; 257 McLane Ave.; 717M.

Cather, Harold Malcolm, B.S.M.E.; Instructor in Drawing; 1919; 184 First Street.

Cavins, Lorimer Victor, A.M.; Professor of Education; 1918.

Chidester, Floyd Earle, Ph.D.; Associate Professor of Zoology; 1919; 24 Demain Avenue; 631J.

Chitwood, Oliver Perry, Ph.D.; Professor of European History; 1907; 312 Park Street; 683W.

Clark, Friend Ebenezer, Ph.D.; Professor of Chemistry; 1914; 649 Spruce Street; 830R.

Clerkson, James Wood; Student Assistant in Physics; 1919; 85 Beverly Ave.; 716.

Cokeley, Anna Lena; Student Assistant in Home Economics; 1919; 505 High Street; 409.

Cochran, Thomas John, B.S.; Assistant Chemist, Agricultural Experiment Station, 1920.

Colwell, Rachel Hartshorn, B.S., M.A.; Associate Professor of Home Economics; 1919; 87 Grant Avenue; 469.

Compton, Vernon Clay; Student Assistant in Zoology; 1919; 617 Spruce Street; 333J.

Conaway, Mary Louise, A.B.; Secretary to the Dean of the College of Engineering; 1918; 689 High Street; 731M.

Cook, Isaac Scott, Jr., B.S.Agr.; Consulting Agronomist, Experiment Station; 1916; 1910; 254 Fife Ave.; 1000M.

Coulter, John Lee, Ph.D.; Dean of the College of Agriculture and Director of the Experiment Station; 1915; 94 Beverly Avenue; 450R.

Cox, John Harrington, A.M.; Professor of English Philology; 1904; 1902; 34 University Driveay; 563J.

Crane, Dee; Potato Specialist, Agricultural Extension Staff; 1917; North Front Street; 804J.

Crane, Harley Lucius, B.S.Agr., Assistant Professor of Horticulture and Associate Horticulturist, Experiment Station; 1914; 757 N. Front Street; 134R.

Creech, Benjamin Franklin; B.S.Agr., Livestock Specialist, Agricultural Extension Staff; 1919; North Spruce Street; 870J.

Dadisman, Andrew Jackson, M.S.Agr.; Associate Professor of Rural Economics and Farm Management and Assistant in Farm Management, Experiment Station; 1916; 118 Willey Street; 120J.

Darby, Arleigh Lee, A.M.; Associate Professor of Romance Languages; 1915; 1910; 487 High Street; 833J.

Davis, Roland Parker, M.C.E., Ph.D.; Professor of Structural and Hydraulic Engineering; 1912; 1911; 16 Demain Ave.; 263J.

Deahl, Jasper Newton, Ph.D.; Professor of Education; 1901; 414 Park Street; 660R.

DeVere, Marie Kathryn, B.S.Agr.; Instructor in Home Economics; 1919; 239 Prospect Street; 184J.

Dodd, David Rollin. B.S.Agr., Agricultural Extension Staff; 1919; 39 Maple Avenue.

Dodds, Gideon Stanhope, Ph.D.; Assistant Professor of Histology and Embryology; 1918; 519 Front Street; 267.

Donner, Max; Instructor in Violin; 1918; 45 Jones Ave.; 754W.

Eberhardt, Winfield, First Sergeant, Infantry U. S. A., Assistant to the Professor of Military Science and Tactics; 1919.

Eiesland, John Arndt, Ph.D.; Professor of Mathematics; 1907; 23 Demain Avenue.

Emory, Frederick Lincoln, B.S., M.M.E.; Professor of Mechanics and Applied Mathematics; 1897; 1891; died, December 31, 1919.

Ezell, Belton Bonner, B.S.Agr., Assistant Director in charge of livestock; Agricultural Extension Staff; 1919; 1914; 297 Grant Ave.

Federer, George Andrew, Jr.; in Charge of Chemistry Store-Room; 1919; 327 Smith Street; 528J.

Fisher, Claire, A.B.; Student Assistant in Mathematics; 1918; 52 University Driveway; 124.

Fisher, Robert Waldorf, M.D.; Instructor in Physical Diagnosis; 1913; Walnut Street; 540.

Fling, Eva M., A.B.; Instructor in Botany; 1919; 1917; 52 Stewart Street; 28.

Forman, Alexander Hardie, E.E., M.M.E., Ph.D.; Professor of Electrical Engineering; 1916, 1913; 53 Morris St.; 893M.

Friend, Lloyd Lowndes, A.M.; Professor of Secondary Education; 1910, 1897; Charleston, W. Va.

Frost, Elizabeth Dee, A.M.; Instructor in English; 1919; 94 Beverly Ave.; 450R.

Frost, Walter Sprague, B.S.; Instructor in Chemistry; 279 Grand St.; Resigned February 1, 1920.

Fox, Mary Adelaide; Assistant Librarian; 1917; 1 Vance Lane.

Frame, Nat Terry, A.B.; Director of Agricultural Extension; 628 North High Street; 731J.

Galt, Joseph; First Sergeant, Infantry, U. S. A.; Assistant to Professor of Military Science and Tactics; 1919.

Giddings, Nahum James, M.S.; Plant Pathologist, Experiment Station; 1908; 36 University Driveway; 667M.

Gill, Gladys Grimshaw, B.S.; Instructor in Home Economics; 1918; 628 Spruce Street; 71J.

Gill, James Herbert, B.M.E., M.E.; Professor of Machine Construction; and Superintendent of Shops; 1920.

Graft, Joseph Addis; Instructor in Mining (Extension); 1918; Elkins, W. Va.

Gray, Harry Edward, Instructor in Mining (Extension); 1919; Beckley, W. Va.

Griffin, Morna B.; Secretary to the President; 457 High Street.

Grow, George Walter, B.S.M.E., M.S.; Assistant Professor of Machine Design and Construction; 1914, 1912; 211 Wells Street.

Grumbine, Harvey Carson, Ph.D.; Assistant Professor of English; 1919; 23 Demain Street.

Grumbein, John Behny, M.M.E.; Professor of Steam and Experimental Engineering; 1916, 1903; 260 McLane Ave.; 881J.

Guseman, Sadie Rae, B.S.; Specialist in Home Economics; Agricultural Extension Staff; 1913; 42 Stewart Street.

Hager, Buena Brand; bookkeeper in the office of the Financial Secretary; 22 Bridge Street; 1156J.

Hall, Arthur Adams, B.S.M.E.; Associate Professor of Electrical Engineering; 1916; 379 Front Street; 1032J.

Hanson, Harman Herbert, M.S.; Assistant Chemist, Experiment Station; 1919; 749 North Front Street.

Hardman, Thomas Porter, M.A., LL.B.; Jur. Dr.; Professor of Law; 1919; 1913; 515 Grant St.; 559.

Hardy, Irvin, M.D.; Instructor in Minor Surgery; 1912; Coburn Ave.; 629J.

Hare, Alfred Jarrett, A.M.; Professor of Latin, and Secretary and Registrar of the University; 1998, 1889; 571 Spruce Street; 870W.

Hart, Simeon Thompson, B.S.M.E.; Assistant Professor of Machine Construction and Superintendent of Shops; 1915; 234 Jackson Ave.; Resigned January 10, 1920.

Hartley, Charles Henry, B.S.; Assistant Director, in Charge of Extension Schools and Exhibits; Agricultural Extension Staff; 1914; 5 Collins Ferry Road; 247J.

Hayes, Flora Ray, A.B.; Instructor in Theory and History of Music; 1910; 480 High Street; 967J.

Hayes, Leslie David, B.S., M.E.; Professor of Machine Design and Construction; 1918; 728 University Terrace; 831R.

Hayman, Joseph Lester, B.S., Ph.C.; Instructor in Pharmacy; 1919; 48 University Driveway; 563M.

Henderson, Harry Oram, M.S.; Assistant Professor of Dairy Husbandry; 1919; 1918; 60 Jones Ave.

Hepworth, Marion Martha, B.S.; Assistant Director in Charge of

Home Economics Extension, Agricultural Extension Staff; 1919; 1916; 580 Spruce Street; 349W.

Higby, Chester Penn, Ph.D.; Assistant Professor in History; 1919; 334 Park Street; 1047J.

Hill, Hubert, M.S.; Assistant Professor of Chemistry; 1916, 1910; 186 First Street; 474R.

Hill, Lawrence Benjamin, A.M.; Associate Professor of Education; 1918; 182 First Street; 235J.

Hite, Bert Holmes, M.S.; Chief Chemist, Experiment Station, and Professor of Agricultural Chemistry; 1895; 222 Pleasant Street; 1028.

Hock, Nell Mildred; Student Assistant in Zoology; 1919; 128 Willey Street; 586R.

Hodgson, Joseph Ellis, Ph.D.; Professor of Mathematics; 1913; 1912; 209 Grant Ave.; 254R.

Hoge, Eliabeth Stewart; Student Assistant in the Library; 1919; 68 Beverly Ave.; 1083J.

Johnson, Agnes Chadbourn, A.B., Instructor in Public School Music; 1919; 259 Spruce Street.

Johnson, David Dale, A.M.; Associate Professor of English; 1914; 1902; 305 Fayette Street; 979J.

Johnston, John Charles; Secretary to the Dean of the College of Agriculture and Chief Clerk Agricultural Experiment Station; 1914; 151 McLane Ave.; 995R.

Johnston, Ross Bradshaw, in Charge of University News Service; 1919; 19 Pennsylvania Ave.; 187M.

Jolliffe, Charles Byron, B.S.; Instructor in Physics; 1919; 1917; 219 Cedar Street; 1163W.

Jones, Clement Ross, M.E., M.M.E.; Dean of the College of Engineering and Professor of Power Engineering; 1911, 1895; 317 Willey Street; 205J.

Jones, Henry Albert, Ph.D.; Associate Professor of Horticulture and Associate Horticulturist of the Experiment Station; 1919; 724 North Front Street.

Jones, Henry Craig, A.B., LL.B.; Professor of Law and Dean of the College of Law; 1914; 206 Grant Ave.; 779R.

Kay, Wilbur Jones, A.M.; Professor of Public Speaking; 1919; 669 Spruce Street; 264M.

Keadle, Okey Paul; Assistant in Law Library; 1919; 230 Kirk Street; 580J.

Kendrick, William Henry, A.B.; Assistant Director of State Boys' Clubs; Agricultural Extension Staff; 1919; 1913; 144 Pleasant Street; 334J.

King, Benjamin Walter, A.M.; Assistant Professor of Economics; 309 North Willey Street; 427R.

Knowlton, Harry Edward, B.S.; Assistant Professor of Horticulture and Associate Horticulturist in the Experiment Station; 1919; 203 Fife Ave.

Krak, Jan Hendrick Berghuis, B.C.; Assistant Chemist, Experiment Station; 1908; 258 McLane Ave.; 881M. Resigned February 1, 1920.

Kunst, Frank Batson, A.B.; Assistant Chemist, Experiment Station; 1901; Garlow Building; 1028.

Lazelle, Charles Lester; Student Assistant in Chemistry; 1919; 257 McLane Ave.; 717M.

Legge, Withrow Reynolds, M.S.; Instructor in Horticulture, Agricultural Extension Staff; 1916; 457 High Street. Resigned January 1, 1920.

Leland, Benjamin Towne, A.M.; Associate Professor of Industrial Education; 1918; 194 Park St.; 893W.

Livesay, Edward Alexander, A.M.; Professor of Animal Husbandry and Specialist in Animal Husbandry in the Agricultural Experiment Station; 1919; 6 South Walnut Street; 1090M.

Lorentz, Mary Belle, Assistant Secretary, Dean's Office, College of Engineering; 1918; Woman's Hall.

Lueder, Charles Augustus, D.V.M.; Associate Professor of Veterinary Science; 1912, 1908; 752 N. Front Street; 804R.

Lytle, Clara, A.B.; Assistant in English; 1919; 120 High Street.

Mason, Ralph Louis; Specialist in Poultry, Agricultural Extension Staff; 1919; 757 North Front Street; 134R.

McGovran, Victoria Electa; Student Assistant in Home Economics; 1919; 52 University Driveway; 499J.

McIlvaine, Theodore Clinton, B.S.Agr., M.S.; Assistant Agronomist, Experiment Station; in Charge of Agricultural Sub-station, Huntington, W. Va.

McKenzie, Robert Duncan, A.B.; Associate Professor of Economics and Sociology; 1919; 340 Park Ave.; 1168J.

Mestrezat, Walter Alexander; Chief Musician, Cadet Corps, and Instructor in Band Music; 1901; 57 Bridge Street; 1157J.

McMurrer, Clement Anthony; Student Assistant in Chemistry; 1919; 480 Spruce Street.

Montgomery, Allen Guy, A.B.; Student Assistant in Mathematics; 1919; 284 Second Street.

Moore, Susan Maxwell, A.B.; Dean of Women and Instructor in Piano; 1903; Woman's Hall; 975.

Miller, Edna Margaret; Student Assistant in Home Economics; 1919; 120 High Street; 1204.

Morris, Russell Love, B.S.C.E.; Professor of Railway and Highway Engineering; 1895; 294 Grand Street; 621J.

Morris, Samuel, M.A.; Assistant Professor of Chemistry; 1917; 1916; 17 Demain Ave.; 362W.

Morris, Samuel John, M.D.; Associate Professor of Anatomy; 1917; 1912; 83 Kingwood Street; 696J.

Morris, Stanley Clarence, A.B.; Assistant to Law Librarian; 1919; 115 Quay Street.

Morse, Withrow, Ph.D.; Associate Professor of Physiology and Physiological Chemistry; 1918; Collins Ferry Road; 555R.

Mumma, Harlan Leslie; Captain United States Army, Professor of Military Science and Tactics and Commandant of Cadets; 1919; 644 Spruce Street.

Noyes, Bradford, Jr.; Student Assistant in Physics; 1919; 42 Stewart Street.

Nicholson, Blake; Student Assistant in Library; 1919; 264 McLane Avenue; 235W.

Patch, Roland Harrison, M.S.; Assistant Professor of Horticulture and Assistant Horticulturist, Experiment Station; 1917; 186 First Street; 378J.

Pears, Leonard Marion, B.S.Agr., M.S.; Professor of Entomology and Research Entomologist; Experiment Station; 1913; 1912; 50 Jones Ave.; 895R.

Perry, Enos Johnson, B.S.; Specialist in Dairying; Agricultural Extension Staff; 1920.

Pettigrew, Helen Purinton, A.B.; Student Assistant in English; 1919; 85 Grandview Ave.; 973R.

Prettyman, Hugh Willard, B.S.Agr.; Specialist in Horticulture; Agricultural Extension Staff; 209 Wells Street; 604J.

Provost, Antonio Joseph; B.L.; Assistant Professor of Romance Languages; 1918; 174 High Street; 234R.

Purinton, Bertha Browning, A.M.; Assistant to the Dean of Women; 1919; 247 Willey Street; 258.

Purinton, Daniel Boardman, Ph.D., LL.D.; President and Professor of Philosophy, Emeritus; 1911, 1873; 89 Grandview Ave.; 793R.

Randolph, John Hager; First Lieutenant, United States Army; Assistant Professor of Military Science and Tactics and Assistant Commandant of Cadets; 1919. Relieved, January, 1920.

Reese, Albert Moore, Ph.D.; Professor of Zoology; 1907; 312 Park Street.

Reynolds, Vivian Gordon; Student Assistant in Library; 1917; 511 High Street; 184W.

Riggs, Cecil Orval; Student Assistant in Chemistry; 1919; 1917; 516 University Driveway; 1022J.

Richey, Harry Wyatt, B.Sc.Agr., Assistant Professor of Horticulture and Assistant Horticulturist; Experiment Station; 1917; 246 Fife Ave.; 203W.

Reilly, Nina Catherine, B.S.; Instructor in Home Economics; 1917; 239 Prospect Street; 184J.

Roberts, Edward Noel, Ph.D.; Assistant Professor of Chemistry; 1919; 282 Grant Street; 686R. Resigned, February 1, 1920.

Rochat, Paul, M. A.; Assistant Professor of French; 1919; 23 Euclid Ave.; 631M.

Ropp, Clarence Daniel Luther; Student Assistant in Chemistry; 1919; 89 Beverly Ave.; 69M.

Rouzer, Paul Charles, B.S.Agr., Instructor in Agricultural Education; 1917; 120 Beverly Ave.

Rumsey, William Earl, B.S.Agr.; State Entomologist; Experiment Station; 1893; 415 Park Street; 671R.

Russell, Katherine; Secretary to the Dean of the College of Law; 1917; 281 Grant Avenue.

Salter, Robert Mundhenk, M.S.; Associate Professor of Agronomy; 1919; 1915; 741 North Front Street.

Sayre, Greek, A.B.; Student Assistant in English and History; 1918; 16 Overhill Street; 193W.

Scheffel, Earl Read, M.S.; Assistant Professor of Geology; 1919; 640 High Street; 796J.

Schuster, George Lee, M.S.; Instructor in Agronomy; 1919; 751 North Front Street.

Schmidt, Clara Rowena, B.S.Ed.; Instructor in Home Economics; 1918; 591 Spruce Street; 349W.

Seaman, Raymer Egbert; Instructor in Woodworking and Foundry Practice; 1912; 86 Washington Street; 784J.

Shaw, Edward Lee, B.Sc.Agr.; Sheep Specialist; Agricultural Experiment Station Staff; 1917.

Shaw, Jacob Kingsley, Ph.D.; Professor of Horticulture and Horticulturist in the Experiment Station; 1919; 628 Spruce Street.

Sheldon, John Lewis, Ph.D.; Professor of Botany; 1913; 1903; 299 Grand Street. Resigned, October, 1919.

Shriver, Henry Edwin, B.S.; Assistant Chemist, Agricultural Experiment Station; 1920.

Simonton, James Wiggins, A.B., J.D.; Professor of Law; 1917, 1914; 6 South Walnut Street; 1090M.

Simpson, John Nathan, M.D.; Dean of the School of Medicine and Professor of Physiology; 1912; 1902; 14 Willey Driveway; 244J.

Smith, Simeon Conant, A.M.; Associate Professor of Rhetoric; 1914; 1899; 174 High Street. On leave of absence.

Snee, Grace Martin; Instructor in Piano and Pipe Organ; 1903, 1898; 282 Fayette Street; 1147M.

Snow, Charles Chapman, A.M.; Instructor in Chemistry; 1919; 465 High Street; 1074.

Spangler, Robert Clinton, A.M.; Instructor in Botany; 1914; 1912; 250 First Street.

Stansbury, Harry Adams, B.S.; Director of Athletics; 1917; 12 Willey Driveway; 59.

Stathers, Madison, Ph.D.; Professor of Romance Languages; 1910; 1906; 288 Grand Street; 594W.

Steadman, Marja Brown; Instructor in English; 1919; 148 McLane Ave.; 667J.

Stearns, Allen Edwin, Ph.D.; Instructor in Chemistry; 1920.

Stearns, Esther Wagner, A.B.; Assistant in Chemistry; 1920.

Steepleton, Clifford Atwood, A.B.; General Secretary, Young Men's Christian Association; 1919; 7 Liberty Street; 1270.

Stephenson, Roscoe Elmo, M.S.; Assistant Soils Chemist, Agricultural Experiment Station; 1919; 29 Lincoln Ave.; 173J.

Stewart, James Scott, M.S.; Professor of Mathematics, Emeritus; 1907; 1877; 146 Willey Street; 120R.

Stockdale, Charles Ellsworth, B.S.Agr.; Agricultural Editor; 1916; R. D., Morgantown.

Story, Hardy J., Master Engineer, Corps of Engineers; Assistant to the Professor of Military Science and Tactics; 1919.

Stuhlman, Otto, Jr., Ph.D.; Assistant Professor of Physics; 1919; 29 Lincoln Avenue; 173J.

Swenholt, Helmer, Captain, Corps of Engineers; Commanding Officer of Engineer Unit; 1919.

Sutton, Luther Francis, B.S.Agr.; Assistant Horticulturist in the Experiment Station, and Superintendent of Reymann Memorial Experiment Farm; 1917; 1912; Wardensville, W. Va.

Trotter, Frank Butler, LL.D.; President; 1916, 1907; 549 Front Street; 151J.

Trotter, James Russell, LL.B., A.M.; Professor of Law; 1908; 15 Demain Ave.; 362J.

Trump, Frank Myers, B.S.; Assistant in Pathology and Bacteriology; 1919; 661 Spruce Street.

Truscott, Frederick Wilson, Ph.D.; Professor of Germanic Languages and Literature; 1899; 197.

Tuckwiller, Ross Homan, B.S.Agr.; Assistant in Beef Cattle Investigations, Experiment Station; 1916; Lewisburg, W. Va.

Vandervort, Hu Swisher, B.S.Agr.; Assistant Director in charge of Horticulture, Agronomy and Dairying; Agricultural Extension Staff; 1919; 1912; 51 Maple Ave.; 1163J.

Vickers, Enoch Howard, A.M.; Professor of Economics and Sociology; 1910; 748 University Terrace; 692J.

Waggoner, Chauncey William, Ph.D.; Professor of Physics; 1909; 730 University Terrace; 968M.

Weakley, Charles Edward, Jr.; Assistant Chemist, Experiment Station; 1907; Peabody Hotel.

Weil, Jeannetta; Chief Clerk, Agricultural Extension Staff; 1912; 272 Prospect Street.

West, Rufus Asa; Instructor in Metal Working; 1913; 1892; 181 First Street; 132J.

White, Bennett Sexton, B.S.M.E.; Instructor in Drawing; 1919; 115 Quay Street; 873M.

Whitehill, Alexander Reid, Ph.D.; Professor of Chemistry; 1885; Prairie Ave., and Wagner Road; 699.

Wiestling, Helen, A.B.; Assistant in Pharmacology and Physiology; 1918; 480 Spruce Street; 494.

Willey, William Patrick, A.M.; Professor of Equity, Jurisprudence and Commercial Law, Emeritus; 1912; 1883; 250 Pleasant Street; 150M.

Williams, Edgar, A.M.; Instructor in English; 1918; 56 Ash street; 263M.

Willis, Dennis Martin, A.B., LL.M.; Financial Secretary; 1915; 1895; 212 Park Street; 1078J.

Wilson, Charles Vinyard, B.S.Agr.; Instructor in Animal Husbandry; 1919; 520 North High Street; 284R.

Wilson, Herman E.; Student Assistant in Chemistry; 1919; 221 Willey Street; 592J.

Winkler, Charles Herman, Ph.D.; Assistant Professor of Agricultural Education; 1916; 10 Clark Street; 864J.

Yoke, John Jonathan, B.S.Agr.; Assistant Professor of Animal Husbandry, and Assistant in Animal Husbandry, Experiment Station; 1915; 580 Spruce Street; 349J.

York, Harlan Harvey, Ph.D.; Professor of Botany; 1919; 45 Jones Ave.

Young, Frances Margaret, B.S.; Instructor in Home Economics; 1920; 621 Spruce Street; 349M.

Zern, Edward Nathan, B.S.; Lecturer on Mining Engineering; 1917; 1912; Pittsburg, Pa.

LIST OF STUDENTS

STUDENTS ENROLLED IN THE COLLEGES.

NOTE.—The following list includes the names of all students enrolled in the various colleges of the University ,arranged in alphabetical order. Following each student's name and address are given his class, course of study which he is pursuing, or the degree for which he is a candidate. The word freshman, sophomore, etc., following the student's name, indicates his rank on the first day of November, 1919. Regular students in the College of Law have the following standing in the University: first-year students, sophomore; second-year students, junior; third-year students, senior; except those holding a bachelor's degree. Students whose names are marked with an asterisk (*) are ranked as freshmen, but are conditioned in one or more preparatory subjects. Students marked as special students are classified in accordance with the regulations found on page 32 of this Catalogue.

Adams, Daniel Jenifer	Sutton	*Fr., B.S.Agr.
Adams, Donald	Cheat Haven, Pa.	Voc., Agr.
Adams, Guy Carson	Keyser	Voc., Agr.
Adams, Jane Woolcock	Huntington	Soph., A.B.
Adams, John Quincy	Huntington	Fr., A.B.
Addair, John	Panther	Fr., A.B.
Ahrens, Charles Boger	Wheeling	2nd Year Law
Akins, John Russell	Hundred	Jun., B.S.C.E.
Alderson, Ida Lee	Summersville	Jun., A. B.
Alderson, John Duffy	Morgantown	Soph., A.B.
Allen, Alice Lorene	Parkersburg	Fr., B.S.H.E.
Allen, Anna Jane	Morgantown	Soph., A.B.
Allen, Glenn Frank	Parkersburg	Sen., B.S.C.E.
Allen, Robert Ethan	Morgantown	Sen., B.S.Agr.
Allen, Ruby Vivian	Ravenswood	Jr., B.S.H.E.
Allewelt, Sue Moore	Sewickley, Pa.	Special Agr.
Allison, Eunice Mildred	Chester	Grad. A. & S.
A.B., Wilson College, 1915.		
Anderson, Charles Claude	Morgantown	Fr., B.S.Agr.
Anderson, David Geddas	Apollo, Pa.	Fr., A.B.
Anderson, Effie Katherine	Mannington	Sen., A.B.
Anderson, James Lee	Littleton	Soph., A.B.
Andrews, Edward Cornelius	Morgantown	Special Law
Angelo, Ida Marie	Parsons	Fr., A.B.
Ankeny, Roy Horace	Indiana, Pa.	Fr., A.B.
Ankrom, Leslie	Morgantown	Grad. Agr.
B.S.,Agr., West Virginia University, 1917.		
Archer, John Blazer	Gallipolis	Fr., B.S.E.M.
Armstrong, Herbert Morgan	Rowlings, Md.	Fr., A.B.
Armstrong, Norman McKelvy	Pittsburg, Pa.	Jun., B.S.Agr.
Armstrong, Virginia Dent	Grafton	Soph., A.B.

Arnett, Cleo Kenneth	Fairmont	Sp. Pharmacy
Arnold, Edna	Weston	Sen., A.B.
Arnold, Walter Samuel	Elk Garden	Fr., B.S.E.M.
Arthur, Oscar Fred	Buckhanon	*Fr., B.S.M.E.
Ashcraft, Ward L.	Wallace	Fr., B.S.Agr.
Atkinson, Howard Alexander	Elm Grove	Voc., Agr.
Atkinson, Nathaniel Peabody	Elm Grove	Fr., A.B.
Atwood, Dorothy May	Morgantown	Fr., A.B.
Atwood, Norman Calvin	Morgantown	Fr., B.S.C.E.
Avey, Guy Raymond	Great Cacapon	Fr., A.B.
Bachmann, Adelaide Sophia	Wheeling	Soph., A.B.
Baer, Herbert Kelsey	Morgantown	Soph., A.B.
Bailey, Bettie Dunbar	Morgantown	Special Agr.
Bailey, Claire Burns	Morgantown	Sen., A.B.
Bailey, George Silas	Grafton	Soph., B.S.C.E.
Bailey, Harvey Clarke	Morgantown	Soph., B.S.Agr.
Bailey, Jessie Lee	Morgantown	*Fr., B.S.H.E.
Bailey, Russell Brooks	Weston	Sen., A.&S. & 2nd Yr. Med.
Baker, Clay Riley	Spencer	*Fr., A.B.
Baker, Estelle Mae	Huntington	Soph., A.B.
Baker, Grace Elliott	Morgantown	Jun., A.B.
Ball, Martha Prudence	Locust	Fr., A.B.
Ball, Nina Elizabeth	Spencer	Fr., B.S.H.E.
Ball, Walter Frank	Grafton	1st Year Law
Ballard, Bertha Kathleen	Peterstown	Fr., A.B.
Barber, Daniel Newman	Charleston	1st Year Med.
Barger, Irene Hess	Shinnston	Fr., A.B.
Barker, Gladys	Morgantown	Fr., A.B.
Barker, Mildred Joy	Morgantown	Jun., A.B.
Barnes, Lena Ice	Morgantown	Special A. & S.
Barnes, Mabel Irene	Fairmont	Jun., A.B.
Barnes, Ralph Mosser	Morgantown	Fr., B.S.Ch.E.
Barnes, Sarah Grace	Weston	Fr., A.B.
Barns, Bernie Hodges	Morgantown	Special A. & S.
Barns, Helen Virginia	Morgantown	Sen., A.B.
Barns, Mary Hodges	Morgantown	Jun., A.B.
Barr, Hallie Matilda	Richwood	Fr., A.B.
Barrett, Edgar Overton	Fairmont	Fr., A.B.
Barrett, Harold James	Cameron	Grad. A. & S.
A.B., West Virginia University, 1919.		
Barrett, Winfield Ocal	Bloomfield, Mo.	Voc. Eng'g.
Barrick, Lloyd Hamilton	Carnegie, Pa.	Fr., A.B.
Barry, Lawrence Leo	Fairmont	Fr., Ph.G.
Barton, Fay Thomas	Point Pleasant	Fr., A.B.
Batten, Beryl	Morgantown	Jun., A.B.
Bauman, Herman Stentzel	Wheeling	Voc., Agr.
Beard, Carie Warner	Ronceverte	Fr., B.S.H.E.
Beard, Orin Jennings	Point Pleasant	Fr., B.S.Agr.
Beatty, Bessie Leah	Morgantown	Fr., A.B.
Beck, Geneva Gladys	New Geneva, Pa.	Soph., A.B.
Beckett, Shelby Carl	Eggleton	Voc., Agr.
Bee, Russell Edward	Pennsboro	Fr., A.B.
Beeghley, Jesse Wirt	Weston	Soph., A.B.

Bekenstein, Joseph	Charleston	Fr., B.S.Ch.E.
Bell, Bessie Boyd	Glenville	Grad. A. & S.
A.B., West Virginia University, 1913.		
Bell, Charley Ross	Rector	Voc. Agr.
Bell, Ezeriah Franklin	Teay's	Voc. Agr.
Bell, Roy Austin	Shepherdstown	Soph., A.B.
Bennett, Gladys Marian	Morgantown	Soph., B.S.H.E.
Bennett, Paul Clifford	Morgantown	Fr., B.S.Agr.
Bent, Rudyard Kipling	Beverly	Fr., A.B.
Berardelli, Samuel	Follansbee	*Fr., A.B.
Berkhouse, Alvie Esty	Glenville	*Fr., Ph.G.
Berry, Helen Kathleen	Morgantown	Fr., A.B.
Berry, Lucile	Morgantown	Fr., A.B.
Berryman, Charlotte Elizabeth	Bluefield	Jun., A.B.
Bess, Robert William	Hinton	Soph., A.B.
Bibbee, Carl Roush	Hanna	Jun., B.S.Agr.
Bibbee, Paul Cecil	Hanna	Soph. B.S.Agr.
Bickel, Charles Russell	Parkersburg	Sen., B.S.E.M.
Bickel, Francis Holliday	Parkersburg	Fr., B.S.M.E.
Bierer, Barbara	Morgantown	Fr., B.S.H.E.
Biery, Frederick David	Wheeling	Fr., B.S.Agr.
Biljchevich, Milan	Vurkovar, Serbia	Voc. Agr.
Billingslea, Arthur Blake	Worthington	Soph., A.B.
Billingslea, Jean Gertrude	Fairmont	Sen., A.B.
Bjornson, Edwin	Morgantown	Sen., B.S.M.E.
Blair, Walter Alton	Moundsville	Fr., A.B.
Blake, Earl Clarke	Sherrard	Soph., A.B.
Blake, Gladys Mae	Oak Hill	Fr., A.B.
Blandford, Mildred Cecelia	Morgantown	*Fr., A.B.
Blandford, Robert Sprigg	Morgantown	*Fr., B.S.M.E.
Blatchford, Eddith LaVerne	Belington	*Fr., B.S.H.E.
Blevins, Francis	Eckman	Voc. Eng'g.
Bloom, Mildred Faustatine	Morgantown	Fr., B.S.E.E.
Bloomfield, Helen Virginia	Wheeling	Fr., B.S.H.E.
Blue, William Frederick	Charleston	*Fr., A.B.
Bobbitt, Alta Heaton	Richwood	Grad. A. & S.
Bobbitt, James Sterling	Persinger	*Fr., B.S.Agr.
Boette, Charles William	Parkersburg	Fr., Ph.G.
Boggess, John Paul	Clarksburg	Sen., A.B.
Boggs, Eva Gertrude	Big Otter	Fr., A.B.
Boggs, Raymond Priest	Franklin	*Fr., A.B.
Bolton, Anna Mabel	Morgantown	Jun., A.B.
Bonnesen, Ada Keefer	Wheeling	Fr., B.S.H.E.
Bonzo, Lee Laurin	New Brighton, Pa.	Fr., B.S.M.E.
Booher, Samuel Wilson, Jr.	Moundsville	Soph., A.B.
Boreman, Herbert Stephenson	Middlebourne	3rd Year Law
Bottome, Sterling Bodine	Moundsville	Jun., A.B.
Boundy, Austin John	Cameron	Soph., B.S.C.E.
Bourn, Warren Scudder	Sutton	Fr., A.B.
Bowers, Helen Walters	Wheeling	Jun., A.B.
Bowling, Garnet	Princeton	Special Phar.
Bowman, Harvey Bird	Wheeling	Jun., B.S.Agr.
Boyd, Joseph Henry	Collier	Grad. Agr.
B.S.Agr., West Virginia University, 1918.		
Boyd, Palmer Vaiden	Alton	Voc. Agr.
Boyers, Robert Hayes	Morgantown	Fr., B.S.E.E.

Boyles, Bonnie Lynne	Clarksburg	Jun., A.B.
Bradford ,Harold Keith	Pennsboro	Fr., A.B.
Bradley, John Junius	Baltimore, Md.	*Fr., B.S.M.E.
Bradley, Lyman Cook	Baltimore, Md.	Sen., B.S.C.E.
Brady, Troy Arden	Wallace	Jun., A.B.
Brand, Beulah Grace	Morgantown	Soph., A.B.
Brand, Gail	Morgantown	Soph., B.S.H.E.
Brand, Linnie	Morgantown	Sen., A.B.
Brannon, Eva Lee	Glenville	Soph., A.B.
Brannon, Linn Mapel	Weston	Jun., A.B.
Brewster, Henry Laurence	Welch	Voc. Eng'g.
Brewster, John McLaughlin	Weston	1st Year Med
Briggs, Herbert Whittaker	Morgantown	Jun., A.B.
Bristol, Loris Rood	Morgantown	Soph., A.B.
Boadwater, Blanche Dale	Belington	Sen., A.B.
Broadwater, Theodore Verne	Belington	Jun., A.B.
Brock, Robert Luther	Morgantown	Sen., A.B. & 1st Year Law
Brohard, Encil Ray	Fairview	Fr., B.S.Agr.
Brooks, Allan Arthur	Buckhannon	Sen., B.S.Agr.
Brown, Emma Louisa	Morgantown	Soph., A.B.
Brown, Frank Orcutt	Charleston	Fr., B.S.C.E.
Brown, James Willard	Albright	Soph., A.B.
Brown, Joseph Charles	Nallen	*Fr., B.S.M.E.
Brown, Ross Duncan	Fairmont	Jun., B.S.E.E.
Brown, Samuel Byrne	Morgantown	Fr., B.S.E.E.
Browning, Virginia Sylvia	Morgantown	Sen., B.S.H.E.
Browning, Virginia Maude	Morgantown	Fr., B.S.H.E.
Brunetti, Mendor Thomas	Curwensville, Pa.	Grad. &. & S.
A.B., West Virginia University, 1917.		
Buckey, William Emmet	Fairmont	Soph., A.B.
Buhler, Elmer Orson	Shawnee, Ohio	Fr., B.S.Agr.
Burdette, William Leps	Lewisburg	Sen., B.S.M.E.
Burk, Helen Elizabeth	Morgantown	Soph., A.B.
Burke, Frank Aloysius	Clarksburg	Special Phar.
Burkhardt, Marie Louise	Morgantown	Fr., B.S.H.E.
Burks, Don Louis	Amherst, Va.	Voc. Agr.
Burley, Maude Marie	Davis	Jun., A.B.
Burley, William James	Moundsville	Soph., A.B.
Burns, James Francis	Fairmont	Jun., A.B.,
Burns, Margaret	Terra Alta	Fr., Ph.G.
Burns, Sarah Louise	Fairmont	Soph., B.S.H.E.
Burnside, Lester Wade	Lost Creek	Fr., B.S.C.E.
Burton, Arthur Garfield	Matoaka	*Fr., A.B.
Burton, William Preston	Matoaka	Soph., A.B.
Bush, Arthur Fred	Hinton	Fr., B.S.E.E.
Butler, Charles Claud	Hedgesville	Fr., B.S.E.E.
Butler, James Dalzell	Hedgesville	Fr., B.S.Ch.E.
Butler, Stanley Cornealius	Huntington	Jun., B.S.Agr.
Butts, Randolph Henry	Wheeling	Fr., A.B.
Cablish, Louis Smith	Charleston	Fr., B.S.M.E.
Cadden, James Joseph	Keyser	Fr., B.S.Agr.
Cahill, Thomas Joseph	Smithton	*Fr., B.S.C.E.
Cain, Geneva Love Cox	Morgantown	Soph., B.S.H.E.

Cain, Harry E.	Morgantown	Jun., B.S.M.E.
Calvert, Ruby Marian	Charleston	Jun., A.B.
Camp, Denver Dale	Spencer	Fr., Ph.G.
Campbell, Florence Fay	Newburg	Fr., A.B.
Campbell, Hazel Elizabeth	Davis	Sen., A.B.
Campbell, Jacob Ernest	Morgantown	2nd. Yr. Law
Campbell, John Beckley	Beckley	Fr., B.S.C.E.
Campbell, John Ray	Sandyville	1st Yr. Law
Campbell, Orman Crawford	Princeton	Fr., A.B.
Canter, Hyman	Pittsburgh, Pa.	1st Yr. Med.
Cantner, Clare Cecil	Harrisville	Fr., B.S.E.E.
Cantrall, Archibald Martin	Morgantown	Sen., A.B.
Carden, Charlie Stephenson	Weston	Sph., B.S.Ch.E.
Carder Joseph Ray	Bristol	*Fr., A.B.
Carder, Lena Bell	Bristol	Special Agr.
Care, Esther Ann	Follansbee	Soph., A.B.
Carle, Elsie Dorothy	Wheeling	Jun., A.B.
Carle, Helen Mary	Wheeling	Grad. A. & S.
A.B., West Virginia University, 1918.		
Carney, Chesney Michael	Sherrard	Soph., A|B.
Carpenter, Gerald Hugh	Fairview	Fr., A.B.
Carpenter, James Ingersoll	Fairmont	Fr., B.S.E.E.
Carroll, Arthur Amos	Slocomb, Ala	Voc. Eng'g.
Carson, Charles Allen	Morgantown	Jun., A.B.
Carson, Clayton Calvin	Charleston	Fr., A.B.
Carson, Eulalia Mae	Morgantown	Jun., A.B.
Carte, Estol Taylor	Connellsville, Pa.	Soph., B.S.C.E.
Carter, Ida Virginia	Elm Grove	Fr., A.B.
Carter, James Merion	Clarksburg	*Fr., A.B.
Carter, Robert Moore	Mt. Hope	Fr., B.S.M.E.
Case, Walter Edward	Sistersville	Fr., A.B.
Casseday, John Forman	Terra Alta	Fr., Ph.G.
Castleberry, Edith Frances	Huntington	Fr., A. B.
Casto, Dale George	Ripley	Fr., A. B.
Casto, Wendell Ewing	Ripley	*Fr., A.B.
Cather, John Duane	Flemington	Fr., B.S.Agr.
Caudy, Daniel Gilbert	Camden-on-Gauley	1st Yr. Med.
Cawley, Anna Agnes	Sistersville	Jun., A.B.
Chabourel, Alfred	Morgantown	*Fr., B.S.E.E.
Chadduck, James Donald	Fairmont	Fr., A.B.
Chalfant, Leslie Homer	Morgantown	Fr., B.S.E.M.
Chalfant, Sarah Margaret	Fairview	Soph., A.B.
Chandler, Hudson	St. Albans	Soph., B.S.E.E.
Charlton, Harry Jr.	Bluefield	*Fr., A.B.
Chichikov, John Thomas	Philippi	Fr., B.S.C.E.
Chitwood, Agnes Cady	Morgantown	Jun., A.B.
Chrislip, Clyde Velow	Smithton	Fr., B.S.M.E.
Chrislip, Walter Grant	Philippi	Fr., Ph.G.
Chrisman, Robert Ralston, Jr.	Morgantown	Fr., B.S.M.E.
Christopher, David Alfred	Morgantown	Grad. A. & S.
A.B., West Virginia University, 1918.		
Christopher, Margaret Bethia	Morgantown	Fr., A.B.
Christopher, Rachel Gertrude	Morgantown	Fr., A.B.
Christy, Mary Louise	Morgantown	Soph., B.S.H.E
Church, Dorothy Virginia	Grafton	Fr., A.B.
Clapham, Roger Everhart	Martinsburg	1st Yr. Med.

Clark, Alva Bernard	Bramwell	Soph., A.B.
Clark, Asa	Morgantown	Fr., A.B.
Clark, Joseph Stanton	Charleston	Fr., A.B.
Clark, Mary Eloise	New Martinsville	Jun., B.S.H.E.
Clarkson, James Wood	Charleston	Sph., B.S.Ch.E.
Clovis, Maurice Lawrence	St. Marys	Fr., Ph.G.
Clower, James Ira	Romney	Fr., B.S.M.E.
Coburn, Raymond Henry	Morgantown	Soph., B.S.M.E.
Cochran, Anagrace Bell	Morgantown	Jun., A.B.
Cochran, Philip James	Morgantown	Jun., A.B.
Coffendaffer, Russell Smith	Jane Lew	Fr., A.B.
Coffman, Edward	Mannington	Fr., A.B.
Coffman, Polly Lewis	Lewisburg	Soph., A.B.
Cokeley, Addie May	Pennsboro	Sen., B.S.H.E.
Cokeley, Annie Lena	Pennsboro	Sen., B.S.H.E.
Colcord, Tristram Coffin	St. Albans	Soph., B.S.E.M.
Cole, Jeremiah Wilson	Cameron	Sen., A.B.
Colebank, Harry George	Parsons	Fr., A.B.
Coleman, John William	Victor	Fr., B.S.Agr.
Coltrane, Eulois Glenn	Haywood	Fr., B.S.M.E.
Compton, Eva Day	Keyser	Sen., B.S.H.E.
Compton, Vernon Clay	Keyser	Sen., A.B.
Conaway, Donald Edward	Morgantown	Jun., B.S.C.E.
Conaway, Mary Louise	Morgantown	Sen., A.B.
A.B., Rollins College, 1917.		
Condry, Raphael Joseph	Clarksburg	Fr., A.B.
Conley, Crede Haymond	Clarksburg	Jun., A.B.
Coogle, Rachel Agnes	Morgantown	Sen., A.B.
Cook, Alice Virginia	Cameron	Jun., A.B.
Cook, Alvin Jenner	Beckley	Soph., A.B.
Cook, John Roach	Fairmont	Fr., B.S.E.E.
Cook, Zula May	Gap Mills	Fr., B.S.H.E.
Cooper, Chalmer Lewis	Parkersburg	Fr., B.S.M.E.
Cooper, Max Wendell	Glenville	Fr., A.B.
Copley, Michael Joseph	Weston	Jun., B.S.Ch.E.
Corbitt, Gordon Page	Waverly	Fr., B.S.E.E.
Core, Jessie Louise	Cassville	Fr., B.S.H.E.
Core, Rose Belle	Cassville	Soph., A.B.
Cottle, Samuel Walter	Spencer	Fr., A.B.
Cottrill, Joseph Charles	Mannington	Fr., B.S.Agr.
Cotts, Clifford Harry	Elm Grove	Soph., B.S.C.E.
Coughlin, Helen Marie	Morgantown	Fr., A.B.
Coughlin, Thomas Maurice	Morgantown	*Fr., A.B.
Counts, William Ralph	Welch	Fr., A.B.
Courtney, David Hall, Jr.	Morgantown	Fr., A.B.
Courtney, John Franklin	Charleston	Fr., B.S.M.E.
Courtney, Joseph Henry	Morgantown	Fr., A.B.
Cowl, James Lancaster	Wheeling	Soph., A.B.
Cox, Floyd Brooks	Morgantown	Grad. A. & S.
A.B., West Virginia University, 1918.		
Cox, Frederick Walter	Farmington	Fr., A.B.
Craig, Frank Waldo	Tunnelton	Fr., B.S.Agr.
Crane, Dorothy McCoy	Morgantown	Sen., A.B.
Cree, George Fletcher	Wellsburg	Soph., A.B.
Creighton, John Seamon	Elm Grove	Soph., B.S.Agr.
Crockett, Nancy Dalton	Monroe, Va.	*Fr., B.S.Agr.

Cronin, Harry Raymond	Richwood	Sen., A.B.
Crossland, Howard Young	Arrow, Pa.	Soph., A.B.
Crow, Edgar Garred	Huntington	Fr., B.S.E.E.
Crowl, Malissa Louise	Fairmont	Jun., A.B.
Cuddy, Elizabeth Robb	Elkins	Sen., A.B.
Culley, Raymond Grant	Cameron	Fr., A.B.
Cumley, Arah Helen	Morgantown	Fr., A.B.
Cummings, Hugh Raymond	Wellsburg	Jun., A.B.
Cure, Mortimer Daniel	Weston	Fr., B.S.E.M.
Curren, Mary Margaret Agnes	Elm Grove	Fr., A.B.
Currence, Troy Mansell	Ellamore	Fr., B.S.Agr.
Current, Howard Wesley	Thornton	Soph., A.B.
Cutright, Paul Russell	Adrian	Jun., A.B.
Dague, Evelyn	W. Brownsville, Pa.	Fr., A.B.
Daniels, Elsie Ruth	Parsons	Fr., A.B.
Daniels, Harold Chauncey	Parsons	Jun., B.S.E.E.
Dasher, Willie Cowger	Moorefield	Fr., B.S.E.E.
Daugherty, Grattan Mitchell	Hinton	Jun., A.B.
Daugherty, Norma Regina	Hinton	Fr., B.S.H.E.
Davies, David Robert	Follansbee	Soph., A.B.
Davis, Cabell Seal	Pence Springs	Fr., A.B.
Davis, Hannibal Albert	Morgantown	Fr., A.B.
Davis, Hubert Beryl	Weston	Fr., B.S.Agr.
Davis, Jasper Alden Worcester	Beverly, Mass.	Sen., B.S.C.E.
Davis, John Blain	Hillsville, Va.	Voc. Agr.
Davis, Mabel Louise	Morgantown	Sen., A.B.
Davis, Mary Letitia	Clarksburg	Fr., B.S.H.E.
Davis, Norvel Reed	Charles Town	Soph., A.B.
Davis, Stanley Earl	Morgantown	*Fr., B.S.C.E.
Davis, William Lewis	Clendenin	Fr., A.B.
Davis, William Robinson	Charles Town	Fr., B.S.E.E.
Dawkins, Nettie	Sandyville	Jun., B.S.H.E.
Dawson, Paul Batten	Clarksburg	Soph., B.S.Agr.
Deahl, Kenneth	Newburg	Fr., B.S.C.E.
Dean, Edward Beecher, Jr.	Washington, D. C.	*Fr., A.B.
DeBerry, Tina Belle	Terra Alta	Sen., A.B.
Deem, Herman Elsworth	Parkersburg	Soph., Ph.G.
De Garmo, Anne	Wadestown	*Fr., B.S.H.E.
Demarrie, Tony	Manayka	Fr., A.B.
Dempsey, Lawton Tolbert	Williamson	Fr., A.B.
DePue, James Marshall	Morgantown	Fr., B.S.Agr.
DePue, Thomas Norris	Morgantown	Fr., A.B.
DeVebre, Elmer Wilt	Ronceverte	Fr., B.S.E.E.
Devine, Averil Ione	Hundred	Soph., A.B.
Dewar Donald Roderick	Parkersburg	Sen., B.S.C.E.
Dewar, Maud Margaret	Parkersburg	Fr., B.S.H.E.
Dial, Anson	Martha	Voc. Agr.
Dick, Gayle Pauline	Charles Town	Soph., A.B.
Dickman, Harold Joseph	Wheeling	Soph., B.S.C.E.
Dixon, Joseph Brashear	Connellsville, Pa.	Soph., B.S.Agr.
Dobrosaljcvitch, Zagorka	Belgrade, Serbia	Voc. Agr.
Dodrill, Everett Lewis	Wainville	*Fr., A.B.
Dodson, Linden Seymour	Morgantown	Jun., B.S.Agr.
Dolly, Olie Corbet	Key	Voc. Agr.

Donally, Fitzhugh	Charleston	Soph.B.S.Ch.E.
Donovan, Ruth Davis	Huntington	Soph., B.S.H.E.
Doolittle, Lambert McChesney	Huntington	Special Law
Dorsey, Ervin	Summersville	Sen., B.S.Agr.
Dorsey, Wesley Franklin	Mt. Lookout	1st Yr. Yed.
Dotson, Eva Walton	St. Marys	Fr., A.B.
Dotson, Gertrude	Richwood	Fr., A.B.
Dougherty, John Edwin	Elkins	Soph., A.B.
Douglass, Ernest Cyrus	Cairo	Fr., B.S.M.E.
Drake, Clara Belle	Mannington	Sen., A.B.
Drebert, Ruth	Boomer	Soph., A.B.
Dudley, Harold Guilford	Sistersville	*Fr., B.S.M.E.
Duerr, Charles Edward	New Martinsville	Soph., B.S.M.E
Dunbar, John Lynn	Spring Creek	*Fr,, A.B.
Duncan, Stella Leo	Clarksburg	Soph., A.B.
Dunn, Clarence Monroe	Morgantown	*Fr., A.B.
Dunn, Edna Elizabeth	Princeton	Fr., B.S.H.E.
Dunn, Jaseph McDowell	Morgantown	Soph., B.S.Agr.
Dunn, William Spurgeon	Beckley	Sen., B.S.Agr.
Duthie, Grace Irene	Clarksburg	Soph., A.B.
Dye, Arthur Pingree	Morgantown	*Fr., B.S.Agr.
Dye, Mabel Taylor	Mineral Wells	Jun., A.B.
Eagan, Fannie	Ronceverte	Grad. A. & S.
A.B., West Virginia University, 1912.		
Eagan, Stewart	Ronceverte	*Fr., B|S.C.E.
Eakin, Armstrong	Morgantown	Soph., B.S.M.E.
Eakin, Duncan	Morgantown	*Fr., A.B.
Eakle, Earl Lough	Clay	Soph., A.B.
Easterday, Harold Jacob	Morgantown	Fr., B.S.Agr.
Eberly, Rowena	Summersville	Fr., A.B.
Edeburn, Paul Walker	West Middlesex, Pa.	Special Eng'g.
Edmondson, Gladys Chastaine	Morgantown	Soph., A.B.
Edmondson, Helen Louise	Morgantown	Soph., A.B.
Edwards, Fred Oliver	Wheeling	Soph., A.B.
Ellison, John Floyd	Charleston	*Fr., A.B.
Emch, John William	New Martinsville	Soph., B.S.E.M.
Emmert, Donald Underwood	Martinsburg	Special Law
Emsweller, Samuel Leonard	Morgantown	Soph., B.S.Agr.
Eneix, Lloyd Cecil	Wheeling	3rd Year Law
England, Leonard Wotring	Beverly	*Fr., B.S.M.E.
Enigson, Edward	Rochester, Pa.	Fr., B.S.M.E.
Ernest, Charles David Fairfax	Belington	*Fr., B.S.E.E.
Etter, Susan Eleanor	Morgantown	Jun., B.S.H.E.
Evans, Elizabeth Mary	Point Marion, Pa.	Fr., A.B.
Everhart, Lysle Rogers	Keyser	Sen., B.S. & 2nd Yr. Med.
Everly, Marguerite Ruby	Morgantown	Fr., A.B.
Everly, Paul Darlington	Kingwood	Fr., B.S.E.M.
Everstine, Allen Perry	Ridgeley	Fr., B.S.E.E.
Ewing, Clara Pyle	Harrisburg, Pa.	Jun., A.B.
Fair, Grace Cecilia	Wallace	Soph., B.S.H.E.
Fantin, Humbert	New York, N. Y.	*Fr., A.B.
Farley, Harvey Prentice	Charleston	Fr., B.S.C.E.

Farmer, George Robert	New Martinsville	1st Year Law
Farrell, Albert Connelly	Clarksburg	Fr., A.B.
Fast, Josephine Elizabeth	Morgantown	Jun., A.B.
Fear, Harvey Earl	Fairmont	Jun., A.B.
Fear, Olan DeWitt	Fairmont	Jun., A.B.
Federer, George Andrew, Jr.	Morgantown	Sen., A.B.
Fehrenbach, Howard Wilson	Wheeling	Soph., A.B.
Feiss, Blanche Esta	Reader	Soph., B.S.H.E.
Felton, Janet Flora	Parsons	Sen., A.B.
Fenderson, Charles Bowell	Sutherland, Va.	Voc. Agr.
Ferguson, Kathleen Bing	Huntington	Sen., A.B.
Ferguson, Ruth	Fairmont	Soph., A.B.
Ferguson, Samuel James	Wayne	Fr., A.B.
Ferguson, Virginia West	Shinnston	Fr., B.S.H.E.
Ferrell, Willard Ellsworth	Burnt House	*Fr., A.B.
Field, Helen Preston	Huntington	Jun., A.B.
Fife, Frances Elizabeth	Morgantown	Soph., A.B.
Figueroa, Liborio	Humacao, P. R.	1st Yr. Med.
Fisher, Claire Beatrice	Reynoldsville, Pa.	Grad. A. & S.
A.B., West Virginia University, 1919.		
Fisher, Dana Earl	Morgantown	Fr., A.B.
Fisher, Edgar Maxwell	Morgantown	*Fr., B.S.C.E.
Fisher, Jessie Mabel	Morgantown	Fr., A.B.
Fisher, Milton DeWitt	Washington, D. C.	Grad. Eng'g.
B.S.C.E., West Virginia University, 1912.		
Fisher, Ruth Helen	New Martinsville	Fr., A.B.
Fisher, William Curtis	Morgantown	Sen., B.S.E.E.
Fisher, William Glenn	Flatwoods	Fr., B.S.Agr.
Fitch, Harold George	Clator	Fr., A.B.
Fitch, James Plummer, Jr.	Morgantown	Soph., A.B.
Fitzgerald, Frances Pride	Bluefield	Sen., B.S.H.E.
Fleming, Carrie Kathryn	Grafton	Sen., A.B.
Fleming, Joseph Arch	Fairmont	Fr., A.B.
Fleming, Ruth Sprague	Morgantown	Fr., A.B.
Fleshman, Dewey Lynwood	Pence Springs	1st Yr. Med.
Fleshman, Pauline Annie	Blue Sulphur	Fr., A.B.
Fling, Eva Myrtelle	Tanner	Grad. A. & S.
A.B., West Virginia Univresity, 1911.		
Fling, Fay	Morgantown	*Fr., A.B.
Flinn, Virgil Lewis	Ravenswood	Sen., A.B.
Florence, Carl Camden	Parkersburg	Fr., A.B.
Foley, Irene Stanton	Clarksburg	Soph., A.B.
Foose, Alphonse Maurice	Wheeling	Soph., A.B.
Ford, Aubrey Eugene	Huntington	Sph., B.S.Ch.E.
Ford, Eli Hester	Virgilina, Va.	Voc. Agr.
Fordyce, Cless Yelving	Middlebourne	Soph., A.B.
Forman, Neil Strecker	Morgantown	*Fr., B.S.E.E.
Fowler, Alda May	Chester	Sen., A.B.
Ph B., Wooster College, 1914.		
Fowler, Glenn Aubert	Harrisville	Fr., B.S.Agr.
Fox. Francke Fulcher	Bluefield	2nd Yr. Phar.
Fox, Hugh James	Fairmont	Fr., A.B.
Frame, Luke Wright	Morgantown	Fr., B.S.M.E.
Frame, Ray Ira	Sutton	1st Yr. Med.
Frame, Wilbur Conan	Morgantown	Fr., A.B.
Frank, Lewis	Charleston	Fr., B.S.E.E.

Frankenburger, Roy Taylor	Morgantown	Soph., B.S.M.E.
Frantz, Luther Marshall	Williamson	Fr., B.S.C.E.
French, William Hoagland	Bluefield	1st Yr. Law
French, William Wirt	Bluefield	*Fr., B.S.C.E.
Friend, Angie Alabama	Morgantown	Sen., A.B.
Frum, John Maurice	Rosemont	Jun., B.S.E.E.
Frum, Mary Alice	Morgantown	Jun., A.B.
Frum, William Hobart	Rosemont	Soph., B.S.M.E.
Fuller Marion Cobb	Rockland, Me.	Special A.&S.
Funk, Frederick Jackson	Fairmont	*Fr., B.S.E.E.
Furbee, Alma Minerva	Middlebourne	Soph., A.B.
Furbee, Clarke Mahon	Mannington	Fr., A.B.
Furbee, Frances Elizabeth	Mannington	Sen., A.B.
Furbee, Lloyd Charles	Ravenswood	Soph., A.B.
Furbee, Russell Logan	Mannington	2nd Yr, Law
Gain, Charles Grantham	Romney	Soph., A.B.
Gaines, Theoppilus Stockton	Charleston	Fr., B.S.Ch.E.
Gallagher, Eva Eleanor	New Cumberland	Jun., A.B.
Gans, Mary Elizabeth	Gans, Pa.	Fr., B.S.H.E.
Galt, Elva Keller	Morgantown	Sen., B.S.Agr.
Gardner, Sigel Ona	Blacksville	Fr., A.B.
Garland, Samuel Meredith	Amherst, Va.	Voc. Agr.
Garrett, Harold Michael	Bridgeport	3rd Yr. Law
A.B., West Virginia University, 1918.		
Garrett, Patrick Henry	Mt. Hope	Sen., B. S. & 2nd Yr. Med.
Garrison, William McKinley	Moundsville	Voc. Agr.
Garvin, Herbert Deane	Moundsville	Fr., A.B.
Gason, Charles Nicoles	Weston	Fr., B.S.C.E.
Gaston, Clifford George	Jane Lew	Fr., A.B.
Gaston, William Bryan	Clarksburg	Fr., A.B.
Gatewood, Beatrice Ioda	McMechen	Soph., A.B.
Gavitte, Rex Brinton	New Bethlehem, Pa.	*Fr., A.B.
Gaylord, Charles Augustus	Clarksburg	*Fr., A.B.
Gaylord, Richard Camden	Clarksburg	Fr., A.B.
George, Edward Metcalf	Wellsburg	Fr., A.B.
Gerwig, Charles Olin	Chapel	Soph., B.S.C.E.
Gerwig, Opha John	Little Otter	Fr., A.B.
Gibbons, Charles Allen	Morgantown	Fr., B.S.E.M.
Gibson, Grace	Sutton	Soph., A.B.
Gibson, James Knox	Triadelphia	Fr., A.B.
Gibson, Mary Blanche	Sutton	Soph., A.B.
Gibson, Nora Ellen	Alderson	*Fr., A.B.
Gibson, Xanna Belle	Sutton	Sen., B.S.H.E.
Giffin, James Vincent	Elm Grove	Jun., B.S.Agr.
Giffin, Theodore Clifton	Rowlesburg	1st Yr. Med.
Gifford, Warren	Wallace	Soph., B.S.Agr.
Gilmore, Arthur Louis	Huntington	*Fr., A.B.
Gilmore, Virginia	Morgantown	Soph., B.S.H.E.
Given, Arnold Jarrett	Elkview	1st Yr. Med.
Givens, Grace Hopkins	Keenan	*Fr., A.B.
Givens, Sarah Elizabeth	Keenan	Jun., B.S.H.E
Givens, William Wiley	Keenan	Jun., B.S.Agr.
A.B., West Virginia University, 1915.		

Glasscock, William Ellsworth, Jr.	Morgantown	Sen., A.B.
Glenn, Kate Rachel Randolph	Morgantown	Fr., A.B.
Glenn, Louise Elizabeth	Clarksburg	Fr., A.B.
Glenn, Okey Bryan	New Martinsville	Fr., B.S.M.E.
Glisan, Elsie Marie	Morgantown	Fr., B.S.H.E.
Glover, Theda Rae	Morgantown	Grad. A.&S. &
A.B., West Virginia University, 1919.		1st Yr. Ph.
Gocke, Thomas Vincent	Piedmont	1st Yr Med.
Goff, Don Worthy	Goffs	Voc. Agr.
Goff, Harvey Claude	Goffs	Fr., B.S.Agr.
Goff, John Trevy	Burnt House	Soph., A. B.
Golden, Marvin Luther	Flatwoods	Fr., A.B.
Goldsborough, Daisy May	Romney	Fr., A.B.
Goldsmith, Francenia Dale	Clarksburg	Soph., B.S.H.E.
Goldsmith, Spurgeon	Clarksburg	*Fr., Ph.G.
Goodall, Cecil Roberta	Charleston	Fr., A.B.
Goodall, Elizabeth Jane	Charleston	Fr., A.B.
Gooding, Forest Nelson	Terra Alta	Jun., B.S.Agr.
Goodnough, Leona Edwina	Fairmont	Jun., A.B.
Goucher, Mahrea Louise	Toronto, Ohio	Fr., A.B.
Gould, Pearle	Williamstown	Soph., A.B.
Gould, Sidney Ross	Cumberland, Md.	Sen., A.B.
Graham, Cecil Harold	Mt. Hope	Jun., B.S.C.E.
Graham, David Calder	Morgantown	Fr., B.S.Agr.
Graham, Ernest Wray	Hinton	Soph., B.S.E.E
Graham, George Francis	Broomfield	Fr., A.B.
Grant, Gladys Muriel Gail	Fairmont	Soph., B.S.H.E.
Gray, William James	Mt. Hope	Jun., A.B.
Graybeal, Viola Miriam	Williamsburg	Fr., A.B.
Green, Harry Leonard	Buckhannon	Soph., B.S.C.E.
Greenspon, Gordon Abraham	Bluefield	Fr., B.S.E.E.
Greer, Joseph William	Fairmont	Fr., A.B.
Gregg, John Morton, Jr.	Morgantown	Soph.B.S.Ch.E.
Greider, Nellie Esther	Parsons	Soph., A.B.
Griffith, George Oscar	Grafton	Soph., A.B.
Grimm, Wilson Osborne	Buckhannon	Soph., A.B.
Grose, Jessie	Sutton	Fr., A.B.
Gross, Paul Thomas	Morgantown	Fr., A.B.
Grove, Leslie Lee	Berkeley Springs	Voc. Eng'g.
Groves, Agnes Verna	Summersville	Soph., B.S.H.E.
Grow, Eugene Ashby	Williamstown	Jun., B.S.Agr.
Gruber, Harry Neidhart	Elm Grove	*Fr., B.S.Agr.
Guerrieri, Emidio	Uniontown, Pa.	Fr., Ph.G.
Guiher, Mary Melissa	Smithfield, Pa.	Soph., A.B.
Gulnac, Zena Leila	Parsons	Fr., A.B.
Gunning, Eugene Thomas	Cumberland, Md.	Fr., A.B.
Guyer, Grover Cleveland	Brandywine	Voc. Agr.
Hagan, Edward Franklin	Hundred	*Fr., B.S.M.E.
Hagen, Julian Lamar	Huntington	Grad. & 1st
A.B., West Virginia University, 1916		Yr. Law
Hager, Paul Edmund	Morgantown	3rd Yr. Phar.
Haines, Margaret Anne	Perryopolis, Pa.	Soph., A. B.
Hall, Beatrice Loraine	Monongah	Sen., A.B.

Hall, Cecil Maurice	Hinton	Fr., A.B.
Hall, Frank LeRoy	G. Barrington, Mass.	1st Yr. Med.
Hall, Goldan Orlando	Parkersburg	Jun., B.S.Agr.
Hall, Olin Burr	Morgantown	Sen., B.S.
Hall, Roy Olney	Morgantown	Sen., A.B.
Hall, Sobisca Stalnaker	Horner	*Fr., A.B.
Hall, Stine Roland	Parkersburg	Fr., B.S.E.E.
Hall, Van Fetchew	Holstead	Fr., B.S.Agr.
Hamilton, Delbert Dewey	Richwood	*Fr., B.S.M.E.
Hamilton, Dewey Dallas	Mannington	Soph., A.B.
Hamilton, Herbert Louis	Fairmont	Fr., A.B.
Hammond, Clay Duckworth	West Union	Jun., A.B.
Hammond, David Marcellus	Moundsville	Sen., B.S.C.E.
Hammond, Kent Cato	West Union	Soph., A.B.
Hamrick, Martin Elliott	Webster Springs	Soph., B.S.Agr.
Hamrick, Rosalie	Clay	*Fr., A.B.
Hamstead, Ezra Elbert	Eglon	Special Eng'g.
Hanford, Josephine	Morgantown	Jun., A.B.
Hannah, Mary Florence	Edray	Soph., A.B.
Hardesty, Mearle Ellen	Morgantown	Sen., B.S.H.E.
Hardman, Victor Hugo	Jane Lew	*Fr., B.S.Agr.
Hardy, West	Morgantown	Sen., A.B.
Hare, Alfred Crocus	Norfolk, Va.	Voc. Agr.
Hark, Joseph Lewis	Charleston	Soph., B.S.C.E.
Harker, Herbert F.	Wana	Soph.,B.S.M.E.
Harkins, Duncan Claire	Morgantown	Jun., A.B.
Harkins, Nelle Evelyn	Morgantown	Fr., A.B.
Harman, Charles Nash	Morgantown	Jun., B.S.E.E.
Harman, Clarence Stamm	New Martinsville	1st Yr. Ph.G.
Harman, Robert Dove	Riverton	2nd Yr. Med.
Harmer, Hardin Roads	Shinnston	Soph., A.B.
Harper, Carra Martha	Davis	Fr., A.B.
Harper, Edith March	Hillsboro	Fr., B.S.H.E.
Harper, Frank	Beckley	Special Phar.
Harper, Leni Leoti	Flatwoods	Soph., A.B.
Harper, Maude Frances	Parsons	Sen., A.B.
Harpold, Allan Earl	Ravenswood	Soph., B.S.C.E.
Harr, Goebel Walter	Fairmont	Soph., B.S.Agr.
Harrick, Joseph Victor	Punxsutawney, Pa.	Fr., B.S.Agr.
Harris, Colin Junkin	Kyle	Fr., A.B.
Harris, Corra	Morgantown	Jun., B.S.H.E.
Harrison, Milton	Fairmont	*Fr., A.B.
Harrison, Theta	Morgantown	Sen., A.B.
Hart, Walter Laurence	Tunnelton	Fr., A.B.
Hartman, Arlett Bryan	Morgantown	Sen., B.S.
Hastings, George Warren	Henryetta, Okla.	Voc. Eng'g.
Hatfield, Daniel Samuel	Charleston	Sen., B.S.
Haught, Austin Miles	Atwood	Soph., A.B.
Havlichek, Helen Hollis	Grant Town	Fr., A.B.
Hawkins, Robert Cunningham	Fairmont	Fr., B.S.Agr.
Haynes, W. Harold	Point Pleasant	Fr., A.B.
Hays, James Franklin	Weston	Soph., A.B.
Hays, Lucille Virginia Morgan	Glenville	Sen., A.B.
Headlee, Herbert Graden	New Martinsville	Sen., B.S.M.E.
Heavner, Virginia Mary	Elkins	*Fr., B.S.H.E.

Heber, Raymond John	New Martinsville	Fr., A.B.
Heckmer, Arthur Benedict	Grafton	Fr., A.B.
Hedrick, Forest William	Fort Spring	Fr., B.S.Agr.
Hedrick, Oley Foster	Brushy Run	Sen., B.S.C.E.
Hefner, Ruth Tersie	Grafton	Fr., A.B.
Helmbright, Louis Patrick	Wheeling	Jun., B.S.Ch.E.
Heltzel, Anna Lucile	Wardensville	Fr., A.B.
Hendrickson, Lucile	Cumberland, Md.	Fr., B.S.H.E.
Henry, Burhyl Tilman	Morgantown	*Fr., B.S.M.E.
Henson, Eleanor Elizabeth	Bunker Hill	Soph., A.B.
Hereford, John Withers	Hogsett	Fr., A.B.
Herndon, Chester Crane	Terra Alta	1st Yr. Law
Hershberger, John William	Clendenin	*Fr., Ph.G.
Hersman, Marion Rockafeller	Grantsville	Soph., A.B.
Hess, Bernard Leo	Clarksburg	Fr., A.B.
Hess, Beulah Ann	Mannington	Soph., B.S.H.E.
Hess, Ethel Lenore	Clarksburg	Soph., B.S.H.E.
Hess, Harold Clare	Mannington	Sen., A.B.
Hess, Nelle Craven	Mannington	Fr., B.S.H.E.
Hess, Paul Rex	Fairmont	Fr., B.S.E.E.
Hetherington, Alfred Edwin	Monongahela, Pa.	*Fr., B.S.E.E.
Hewitt, Eliza Barnes	Uniontown, Pa.	Soph., A.B.
Hibbs, Ward Wayne	Mannington	Soph., A.B.
Hickman, Laura Josephone	Morgantown	*Fr., A.B.
Hicks, Areta Eudora	Webster Springs	Fr., A.B.
Higginbotham, Joseph Harry	Fairmont	Fr., A.B.
Higgs, Ernest Everett	Charles Town	Jun., B.S.Agr.
Higgs, Mary Rachel	Parsons	Fr., B.S.H.E.
Hileman, Virginia Frances	Rockb'd'g Baths, Va.	Fr., A.B.
Hill, Charles Montgomery	Charleston	Soph., B.S.E.E.
Hill, George Wilbur	Fairmont	Soph., B.S.C.E.
Hill, Gladys Sykes	Clarksburg	Soph., A.B.
Hill, Harry	Clayton	Fr., A.B.
Hill, Joseph William	Clayton	Fr., A.B.
Hill, Louis Hawes	Charleston	*Fr., B.S.C.E.
Hill, Maud Rymer	Morgantown	Fr., A.B.
Hill, McKinley Tennyson	Middlebourne	Fr., B.S.Agr.
Hill, Merritt Meade	Nuttallburg	Fr., A.B.
Hill, Norma Ruth Barrett	Middlebourne	Sen., B.S.H.E.
Hill, William Everett	Morgantown	Grad. A. & S.
A.B., West Virginia University, 1918.		
Himes, William Daniel	Shepherdstown	Sen., A.B.
Hiner, Ralph McClung	Franklin	2nd Yr. Law
Hinerman, Nile Howard	Cameron	Fr., A.B.
Hite, Clay Brammer	Huntington	Soph., B.S.E.E.
Hock, Myrtle	Bluefield	Fr., B.S.H.E.
Hock, Nelle Mildred,	Bluefield	Jun., A.B.
Hodges, Charles Edward	Morgantown	Grad. A. & S.
A.B., West Virginia University, 1913.		
Hodges, Lorentz Ryan	Buckhannon	Fr., B.S.E.M.
Hodges, Paul Olien	Roda, Va.	Voc. Eng'g.
Hodgson, Margaret Ellis	Morgantown	Fr., A.B.
Hoff, William Bruce	Parkersburg	Fr., A.B.
Hoffman, Howard Alfred	Morgantown	Fr., B.S.C.E.
Hoge, Elizabeth Stewart	Morgantown	Sen.. A.B.
Hogg, William Bennett	Pt. Pleasant	1st Yr. Law

Hogue, Frank William	Fairview	Jun., A.B.
Hoke, Dwight Moody	Second Creek	*Fr., A.B.
Honaker, Harold Rodney	Matoaka	Fr., B.S.E.M.
Hood, Marjorie Belle	Rivesville	Soph., A.B.
Hoover, Wendell Webster	Webster Springs	Sen., A.B. & 2nd Yr. Law
Hopkins, John Cogley	Cameron	2nd Yr. Law
Hopkins, Martin Francis	Cameron	Soph., B.S.C.E.
Hopwood, Arthur Thomas	Mannington	Soph., A.B.
Hornell, Walter Harrison	Morgantown	Jun., B.S.M.E.
Horner, Warren Bartlett	Weston	Fr., A.B.
Horowitz, Herman Jack	New York, N. Y.	2nd Yr. Med.
Hough, Roscoe Rhodes	Wellsburg	1st Yr. Law
Houston, Patty	Cameron	Fr., A.B.
Howard Ruth Anne	Cowen	Fr., A.B.
Howell, Eva Maude	Philippi	Jun., A.B.
Howell, George Merle	Clarksburg	*Fr., A.B.
Hudson, Eunice Snyder	Morgantown	Sen., A.B.
Huff, Shady Snow	Burnt House	Soph., B.S.H.E.
Huffner, Florence Elizabeth	Cameron	Sen., A.B.
Hufford, Irvin Meade	Denmar	*Fr., B.S.E.E.
Hughart, Robert	Morgantown	*Fr., A.B.
Hughes, Dorothy Carrington	Morgantown	Fr., A.B.
Hughes, Edward	Pittsburgh, Pa.	Fr., A.B.
Hughes, Eva Florence	Parkersburg	Jun., A.B.
Hull, John Tilden	Freemansburg	Special Law
Hume, Flora Beatrice	Philippi	Soph., A.B.
Hummel, Edward William	Elm Grove	Voc. Agr.
Hunt, Joseph Hanley	Huntington	Voc. Agr.
Hunter, Gladys	Morgantown	Soph., A.B.
Hustead, Ivy Ina	Fairmont	Soph., A.B.
Hutcheson, Frank Watkins, Jr.	Ronceverte	*Fr., B.S.C.E.
Hutcheson, William Alfred	Ronceverte	Fr., B.S.C.E.
Hutchinson, Edwin Berry	Ravenswood	Fr., B.S.E.E.
Hutchinson, Harold	Fairmont	Fr., A.B.
Hutchinson, Hickory Clay	Ravenswood	Jun., B.S.Agr.
Hutchinson, Kathryn Bird	Huntington	Soph., A. B.
Hutchinson, Sarah Emily	Cameron	Jun., A. B.
Hutson, Clement Blair	Smithton	*Fr., B.S.E.E.
Hutson, Ray	Salem	Fr., B.S.Agr.
Hyde, Richard Elkins	Martinsburg	Jun., A.B.
Hyman, Morton	Keystone	1st Yr. Law
Ice, Edith Mae	Fairmont	Soph., B.S.H.E.
Ice, Frank Arnette	Fairmont	Sen., B.S.Agr.
Ice, Herschel Conway	Fairmont	Soph., B.S.C.E.
Ice, Mottie Gallaway	Sistersville	Voc. Eng'g.
Ice, Peter	Fairmont	Fr., B.S.E.M.
Icenhower, Lenore Josephine	Mason	Fr., A.B.
Irvine, Claude Abner	Grafton	Fr., A.B.
Jack, James Leslie	Fairmont	Fr., B.S,C.E.
Jackson, Ambrose Henry	Bristol, Va.	Voc. Agr.
Jackson, Harvey Edward	East Bank	Fr., A.B.
Jaco, Jesse Miller	Morgantown	Sen., A.B.

Jacobs, Samuel Woods, Jr.	Wellsburg	Fr., A.B.
Jamison, Frank Robert	Fairmont	Fr., A.B.
Jarrell, Milton	Oak Hill	Soph., B.S.C.E.
Jarvis, Allye Blanche	Weston	Soph., A.B.
Jeffreys, Edna Frances	Logan	Fr., B.S.H.E.
Jeffreys, Ruth Melvina	Logan	Fr., B.S.H.E.
Jennings, James Marshall	Union	Soph., A.B.
John, Brinley	Morgantown	Soph., A.B.
Johnson, Carl Edward	Thomas	Fr., A.B.
Johnson, David Dean	Bridgeport	Jun., A.B.
Johnson, David Morrison	Keyser	Sen., B.S. & 2nd Yr. Med.
Johnson, Philip	Ronceverte	Fr., A.B.
Johnston, Earl Francis	Dain	*Fr., B.S.M.E.
Johnston, Elizabeth	Elk Lick, Pa.	Fr., A.B.
Johnston, Olive Mae	Morgantown	Fr., A.B.
Johnston, Ollie Kate	Hamlin	Fr., A.B.
Johnston, Ruth Helene	Morgantown	Soph., A.B.
Joliffe, Charles Bryon	Morgantown	Grad. A. & S.
B.S., West Virginia University, 1915.		
Jolliffe, James Edmund	Morgantown	Jun., B.S.E.E.
Jolliffe, Mary Esther	Morgantown	Sen., B.S.H.E.
Jolliffe, Norman Hayhurst	Knob Fork	Fr., A.B.
Jones, Archbold Marion	Smithton	*Fr., A.B.
Jones, Dorothy Delmonde	Belington	Sen., A.B.
Jones, George Telghman	Rhodesdale, Md.	Voc. Agr.
Jones, Gordon Grover	Morgantown	Grad. A. & S.
A.B., West Virginia Wesleyan College.		
Jones, Hugh Eckess	Fairmont	Fr., B.S.Ch.E.
Jones, Lucy Eleanor	Smithton	Soph., A.B.
Jones, Trevor Morris	Morgantown	Fr., A.B.
Jordan, Charles Hugh	Hinton	*Fr., A.B.
Joyce, Edward Paul	Dormont, Pa.	Special Eng'g.
Judy, Marion Hendrickson	Petersburg	Pharmacy
Juhling, Florence Emmelyn	Hartford	Fr., A.B.
Junkin, Dorothy Montague	Kyle	Fr., A.B.
Kaltenbach, Clifton Joseph	Wheeling	Soph., B.S.C.E.
Kaltenbach, Harold Joseph	Wheeling	1st Yr. Law
Kane, Geraldine	Weston	Soph., A.B.
Kauffelt, Robert Dunn	Ronceverte	Fr., A.B.
Kay, Robert H. C.	Leon	Soph., A.B.
Kaylor, John, Jr.	Graham Station	Fr., A.B.
Kayser, Fayne Albert	Clarksburg	Fr., A.B.
Keadle, Okey Paul	Williamson	3rd Yr. Law
Keefer, William Francis	Wheeling	1st Yr. Law
Keener, Louise	Morgantown	Fr., A.B.
Keener, Rex McClellan	Blacksville	Fr., B.S.E.E.
Kelley, Albert Lee	Fairmont	Fr., B.S.M.E.
Kelley, Frances Willard	Masontown	Fr., A.B.
Kelley, Grace Gertrude	Masontown	Soph., A.B.
Kelly, Ardafay Clara	Sutersville, Pa.	Jun., A.B.
Kelly, Shields MacDonald	Sutersville, Pa.	Fr., A.B.
Kendrick, William Henry	Morgantown	Grad. A. & S.
A.B., West Virginia University, 1916.		

Kennedy, John Cruickshanks	Charleston	*Fr., A.B.
Kennedy, Katie Marguerite	Sabraton	Fr., A.B.
Kent, Arthur Glenn	Cameron	Fr., A.B.
Keplinger, Elmer Crawford	Lahmansville	Voc. Agr.
Kern, Gaylord Johnson	Morgantown	Fr., B.S.E.E.
Kessel, Russel	Ripley	*Fr., A.B.
Keyser, Ethel Gertrude	Beckley	Jun., A.B.
Keyton, Forest Henry	Dayton, Va.	Voc. Agr.
Kidd, Grady Abshire	Hillsboro	Fr., B.S.Agr.
Kidd, Hubert Herce	Hillsboro	Soph., A.B.
Kiger, Clem Bryan	New Martinsville	*Fr., B.S.Agr.
Kiger, Virgina Louise	Morgantown	Fr., B.S.H.E.
Kimmel, Dorothy	Grafton	Sen., B.S.H.E.
Kimmel, Isabel Hariett	Grafton	Soph., B.S.H.E.
Kimmins, Helen Louise	Elm Grove	Soph., B.S.H.E.
King, Andrew Vaughn	Morgantown	*Fr., A.B.
King, Elsie Ethel	Sistersville	Soph., A.B.
King, Orr Rufus	Weston	Jun., A.B.
Kirkland, Matt Lockwood	New Martinsville	*Fr., A.B.
Kirsch, Charles Edward	Morgantown	*Fr., B.S.M.E.
Kizinski, Marian	Star City	Fr., A.B.
Klaw, Abel	Fairmont	2nd Yr. Law
Klein, Paul Herbert	Okonoko	Voc. Agr.
Klingensmith, Phyllis Virginia	Swissvale, Pa.	Fr., B.S.H.E.
Klinger, Earl	Morgantown	Fr., B.S.E.E.
Klug, Thomas Mitchell	Proctor	Sen., B.S. & 2nd Yr. Med.
Knight, James Lloyd	Clarksburg	Fr., A.B.
Knight, John Forrest	Fairmont	Fr., A.B.
Knight, John Jarrett	Morgantown	Jun., B.S.M.E.
Knode, William Fr., Jr.	Fairview	Sen., B.S.E.M.
Knutti, Ralph Eddy	Morgantown	Fr., A.B.
Krebs, Louis Theodore, Jr.	Morgantown	*Fr., B.S.Ch.E.
Kunkel, Ione Elizabeth	Wheeling	Fr., A.B.
Kyle, Ernest Ide	Welch	Special A. & S.
Kyle, Karl Byron	Clarksburg	3rd Yr. Law
Laas, Albert William	Benwood	Sen., A.B.
Lake, Troy Amor	Parsons	*Fr., B.S.E.E.
Lakin, James Offutt	Charleston	Fr., A.B.
Lambert, Luther Rush	Welch	Soph., A.B.
Lanham, Martin Ward	Grafton	3rd Yr. Law
B.S., West Virginia Wesleyan College, 1912.		
Lanham, Rex Eugene	Independence	Fr., A.B.
Lantz, Rilla Phyllis	Jacksonburg	Fr., A.B.
LaPoe, Albert Edward	Pt. Marion, Pa.	Fr., B.S.E.E.
Largent, Mary	Paw Paw	Sen., A.B.
Lashley, Rebecca Louise	Cumberland, Md.	Fr., B.S.H.E.
Lathem, Claude Aubra	Ravenswood	Sen., B.S.
Latterner, John Basil	Morgantown	Sen., B.S.C.E.
Law, Dennis Ison	Cairo	Jun., B.S.Agr.
Lawrence, Paul Andrew	Chula, Va.	Voc. Agr
Lawson, Clyde	Beckley	Special Phar.
Lawson, Leon Kline	Auburn	Fr., A.B.
Lawton, Rhoda Gertrude	Huntington	Fr., A.B.

Lazzell, Charles Lester	Morgantown	Grad. A. & S.
A.B., West Virginia University, 1918.		
Lazzell, Rufus Glenn	Morgantown	Soph., B.S.E.M.
Leaman, Paul Miller	Fairmont	Fr., A.B.
Leidig, Joseph Guy	Morgantown	Sen., B.S.Agr.
Lemley Clark Frank	Morgantown	Soph., A.B.
Lemley, Wilda May	Morgantown	Fr., A.B.
Lentz, Joseph Howard	New Martinsville	Soph., B.S.C.E.
Leonard, Louise	Fairmont	Jun., A.B.
LePera Frances Margarite	Morgantown	Sen., A.B.
Levin, Sydney	Fairmont	Sen., B.Sc.
Lewellyn, Raymond Hibbs	Elm Grove	Fr., A.B.
Lewis, Charles Leonard	Charleston	Sen., B.S.C.E.
Lilly, John Preston	Athens	Fr., A.B.
Lilly, Nathan Lee	Beckley	Fr., A.B.
Limerick, Charles Thomas	Cameron	Soph., B.S.M.E.
Limerick Ida Fitzhugh	Morgantown	Sen., Ph.C.
Lindamood, Freda	Parkersburg	Fr., A.B.
Lindsey, Roy Vernon	Dingess	Fr., A.B.
Linger, Edward Roy	Weston	Fr., B.S.Agr.
Linger, Maynard	Horner	Jun., A.B.
Liston, Jesse Earle	Morgantown	Sen., B.S.Agr.
Liter, Robert Edwin	Pt. Pleasant	Fr., B.S.Agr.
Lively, Frederick	Charleston	Soph., A.B.
Loar, Charles William	Morgantown	Fr., B.S.Agr.
Lohman, Alfred William	Wheeling	Fr., B.S.Agr.
Long, Eugene Homer	Bluefield	3rd Yr. Law
Long, Nell	Parsons	Fr., A.B.
Lorentz, Mary Belle	Wheeling	Fr., A.B.
Lough, Arthur Harvey	Morgantown	Soph., B.S.Agr.
Lough, Charles Melvin	Wheeling	Grad. Agr.
B.S., West Virginia University, 1911.		
Lough, Esther Hambleton	Wheeling	Soph., B.S.H.E.
Lovett, Lalah	Bulltown	Jun., B.S.H.E.
B.S.Agr., West Virginia University, 1918.		
Lowe, Clarence Ray	Athens	*Fr., B.S.E.E.
Lowe, John Moore	Morgantown	Grad. Agr.
B.S.Agr., West Virginia University, 1918.		
Lowry, Thomas Frederick	Paden City	Sen., A.B.
Lowther, William Paul	Mannington	*Fr., B.S.M.E.
Luckey, Howard Nelson	Charleston	3rd Yr. Law
Lukens, Robert William	Wheeling	Fr., A.B.
Lundy, Melvin	Galax, Va.	Voc. Agr.
Lyall, Leslie Marshall	Morgantown	*Fr., B.S.Agr.
Lynch, Berda Barbee	Wolf Summit	Sen., A.B.
Lynch, Winifred Virginia	Clarksburg	Fr., A.B.
Lynn, Mary Elizabeth	Republic, Pa.	Fr., A.B.
Lytle, Irvin Ross	State College, Pa.	*Fr., B.S.Agr.
Madeira, William Bernard	Morgantown	Jun., A.B.
Mahaney, Clarence Russell	Morgantown	Soph.B.S.Ch.E.
Maher, Louis William	Williamson	Voc. Eng'g.
Maier, Lucille	Huntington	Soph., B.S.H.E.
Malcolm, Rachel Winslow	Morgantown	Fr., A.B.
Malloy, John Francis	Charleston	Fr., B.S.M.E.

Malloy, John Paul	Weston	Fr., B.S.M.E.
Manley, Hugh Elton	Monongah	Fr., A.B.
Manley, Madison West	Morgantown	Fr., B.S.Agr.
Mantz, Frank Barritt	Martinsburg	Soph., B.S.C.E.
Marr, Norval Mason	Barnsley, Pa.	Soph., A.B.
Marshall, Thomas John	Granite City, Ill.	Fr., B.S.C.E.
Martin, Charles McKinley	Narrows, Va.	Voc. Agr.
Martin, Eva Martetea	Bluefield	Fr., A.B.
Martin, Frank Marion	Moundsville	*Fr., B.S.E.E.
Martin, Gertrude	Morgantown	Sen., A.B.
Martin, Grace Alice	Shinnston	Jun., A.B.
Martin, Helen Mar	Enterprise	Jun., A.B.
Martin, Homer Chester	Charleston	Fr., A.B.
Martin, Ivan William	Morgantown	Fr., B.S.Agr.
Martin, James Cogan	Elkins	Fr., B.S.C.E.
Martin, Lilian Gertrude	Shinnston	Fr., A.B.
Martin, Lloyd Daniel	Clarksburg	3rd Yr. Law
A.B., West Virginia University, 1917.		
Martin, Lucille Wilson	Grafton	Soph., A.B.
Martin, Mary Martha	Lewisburg	Sen., A.B.
Martin Mattie Elizabeth	Monongah	Fr., A.B.
Martin, Virginia Tibbets	Clarksburg	1st Yr. Law
Mason, Cloyd Alton	Elkins	Soph., B.S.M.E.
Matheny, Harry Arthur	St. Marys	Fr., A.B.
Matheson, Rosarii Marie	Morgantown	Sen., A.B.
Mathews, Grayce Agatha	Cameron	Fr., B.S.H.E.
Mattingly, Emma Pauline	Morgantown	Soph., A.B.
Mattson, Ellen	Morgantown	Grad. A. & S.
A.B., West Virginia University, 1915.		
Maust, Margaret Leone	Morgantown	*Fr , B.S.H.E.
Maxwell Cyrus Haymond, Jr.	Morgantown	Jun., B.S.Agr.
Maxwell, Frank Jarvis	Clarksburg	Fr., A.B.
Maxwell, George Ralph	Morgantown	1st Yr. Med.
Maxwell, Paul Rufus	Morgantown	Fr., A.B.
May, Ada Elizabeth	Mathias	Soph., A.B.
May, Vera Theresa	St. Albans	*Fr., B.S.H.E.
Mayfield, Jas. Edward	Middlebourne	Fr., A.B.
Mayfield, Madge Emerson	Morgantown	Soph., B.S.H.E.
McAtee, Fred	Mount Clare	Voc. Eng'g.
McBee, Alfred Roy	Flemington	Fr., A.B.
McBee, Lyle Henderson	Fairview	Fr., B.S.Ch.E.
McCarnes, Allan Hunter	Middlebourne	Sen., B.S.C.E.
McCaskey, Mildred	New Martinsville	Jun., A.B.
McCauley, William Deles	Moorefield	Fr., A.B.
McChesney, Alice Johnson	Charleston	1st Yr. Law
McClintic, Virginia Augusta	Richwood	Fr., A.B.
McClue, Arthur Eugene	Clarksburg	Soph., A.B.
McClung, Alexander Keith	Rupert	Fr., B.S.E.M.
McClung, James Robinson	Dawson	Sen., B.S. & 2nd Yr. Med.
McClung, Wyatte Nelson	Rupert	Soph., B.S.Agr.
McClure, Andrew Robert	Wheeling	Soph., A.B.
McConnell, Margaret Ethel	Morgantown	Sen., A.B.
McCowan, William Lort, Jr.	Ravenswood	Fr., A.B.
McCoy, Fred Jefferson	Sistersville	3rd Yr. Law

McCoy, George Talbot	Sistersville	Sen., A.B. & 1st Yr. Law
McCoy, Paul Edgar	Letart	Voc. Agr.
McCue, John Bruce	Persinger	Soph., B.S.Ch.E
McCue, Ruth	Summersville	Soph., A.B.
McCulloch, Joseph Robert	Wheeling	Fr., B.S.Ch.E.
McCullough, Carlton Samuel	Burgettstown, Pa.	1st Yr. Med.
McCullough, Myrtle Mae	Warsaw, Ind.	Soph., A.B.
A.B., Ohio State University, 1919.		
McCumbers, Gordon	Rosedale	Voc., Agr.
McCuskey, Ora May	Cameron	Soph., A.B.
McCutcheon, Randolph	Hominy Falls	Fr., A.B.
McDaniel, Floyd	Williamson	Fr., B.S.Agr.
McDermott, John Peter	Cameron	Jun., A.B.
McDonald, James Ernest	Inwood	Soph., B.S.Agr.
McDonald, Kenneth George	French Creek	Soph., B.S.Agr.
McDonald, Paul Dane	Flemington	Sen., B.S.E.E.
McDonald, Richard Clyde	Inwood	Fr., B.S.Agr.
McDonald, Verda Blanche	Morgantown	Jun., A.B.
McDowell, Charles Wesley	Morgantown	Sen., B.S.C.E.
McElfresh, Marvin Stewart	Point Pleasant	Fr., A.B.
McFarland, Daniel Willard	Ravenswood	Soph., B.S.Agr.
McGary, George Bryan	Moundsville	Fr., B.S.Agr.
McGee, Sidney Lamont	Parkersburg	Soph., B.S.E.M.
McGovern, James Patrick	Clarksburg	Fr., A.B.
McGovran, Thomas Harris	Charleston	Jun., B.S.Agr.
McGovran, Victoria Electa	Charleston	Sen., B.S.H.E.
McGranahan, Alice Virginia	Wheeling	Fr., A.B.
McGraw, Harry	Follansbee	Sen., B.S.C.E.
McGuffie, Otley Gayle	Littleton	Fr., B.S.E.E.
McHale, Edward Francis	Elkins	Soph., B.S.E.M.
McIntire, George Burton	Morgantown	Soph., B.S.Agr.
McIntire, Walter	Fairmont	Fr., A.B.
McIntosh, Fred'c'k Frelinghuysen	Spencer	Soph., A.B.
McIntyre, Clarence Albert	Blue	Fr., A.B.
McKee, Louis Alan	Triadelphia	1st Yr. Law
McKee, William G. Smith	East Liverpool, O.	Fr., A.B.
McKenzie, Eugene Eaton	Princeton	Fr., A.B.
McKenzie, Thomas Fulton	New Cumberland	Fr., A.B.
McKinley, Hoke	Weston	Voc. Agr.
McKinley, Virgina Louise	Morgantown	Sen., B.S.H.E.
McKinney, Lucile Marie	Morgantown	*Fr., B.S.H.E.
McLain, Henry McColloch	Elm Grove	Jun., B.S.E.E.
McLaughlin, Frank Price	Marlinton	*Fr., B.S.E.E.
McMillen, Frank Vincent	Masontown	Soph., B.S.Agr.
McMillen, Pauline	Moundsville	Fr., B.S.H.E.
McMorrow, Mary Magdalen	Glendon	*Fr., B.S.H. E.
McMullen, Frederick Charles	Uniontown, Pa.	*Fr., B.S.E.E.
McMurray, Robert Horner	Moundsville	Fr., A.B.
McMurrer, Clement Anthony	Mannington	Jun., A.B.
McNary, Lorena Virginia	Clarksburg	Fr., A.B.
McNeely, Atta Rebecca	Fairmont	Jun., B.S.H.E.
McNeel, Henry Washington	Hillsboro	Sp. Agr.
McNeil, Kathleen	New Cumberland	Soph., A.B.
McNinch, Tencie Pauline	Moundsville	*Fr., A.B.
McVey, Howard Rodgers	Lewisburg	Fr., B.S.Agr.

Meador, Dewey Hobson	Beckley	*Fr., Ph.G.
Meek, John Robertson	Clator	Fr., A.B.
Meek, Thomas Harris	Clator	Soph., B.S.C.E.
Mendelsohn, Rudolph Herman	Frostburg, Md.	Fr., B.S.E.E.
Meredith, Cora	Morgantown	Jun., A.B.
Meredith, Jamison	Fairmont	*Fr., B.S.C.E.
Meredith, Kate	Morgantown	Grad. A. & S.
A.B., West Virginia University, 1916.		
Meredith, Mildred Ann	Fairmont	Soph., A.B.
Meredith, Nola Alice	Morgantown	Sen., A.B.
Messenger, Metta Estelle	Clarksburg	Soph., A.B
Myers, Earl Raymond	Wellsburg	Fr., A.B.
Michael, Myrtle Ellen	Farmington	Sen., B.S.H.E.
Miles, French Lovett	Buckhannon	Soph., B.S.Agr.
Millard, Elbert Alexander	Williamson	Fr., A.B.
Miller, Alvin Martin	Jeannette, Pa.	Jun., B.S.M.E.
Miller, Charles Sprigg	Terra Alta	Jun., A.B.
Miller, Edna Margaret	Fairmont	Sen., B.S.H.E.
Miller, Eleanor Shafer	Terra Alta	Fr., B.S.H.E.
Miller, Gulie Alice	Huntington	Fr., B.S.H.E.
Miller, LeRoy Brooks	Morgantown	Fr., A.B.
Miller, Lois Evalyn	Morgantown	Fr., B.S.H.E.
Miller, Ruth	Morgantown	Soph., A.B.
Miller, Virginia Baker	Morgantown	Fr., A.B.
Miller, Willa Gladys	Blacksville	Fr., B.S.H.E.
Millholland, Virginia Keim	Russell, Ky.	Fr., A.B.
Milligan, Lillie Margaret	Marlinton	Soph., A.B.
Mills, Frederick Willard	Keyser	Jun., B.Sc.Ph.
Milstead, Freda Marie	Clarksburg	Soph., A.B.
Minor, Charles Donham	Morgantown	Jun., A.B.
Minor, Galia Marie	Carmichaels, Pa.	Soph., A.B.
Mish, Helen Elizabeth	Bunker Hill	Sen., A.B.
Mitchell, Fred Oscar	Welch	*Fr., B.S.E.E.
Moffett, Guy Arthur	Weston	Fr., B.S.E.E.
Mohler, Bruce Virginia	Bedington	Soph., B.S.H.E.
Moist, Clara Summers	Charleston	Fr., A.B.
Moler, Butler Henshaw	Harper's Ferry	Voc. Agr.
Moler, Raleigh Miller	Harper's Ferry	Sen., B.S.
Montani, Anthony Carmen	Youngstown, Ohio	1st Yr. Med.
Montgomery, Allen Guy	Morgantown	Grad. A. & S.
A.B., West Virginia University, 1917.		
Montgomery, Wilda Lea	Morgantown	Soph., A.B.
Montgomery, William Kenneth	Wellsburg	Fr., A.B.
Mooney, Laura Margaret	Bluefield	Sen., B.S.H.E.
Mooney, Mary Frasier	Bluefield	Jun., A.B.
Moore, Amy Katharine	Ravenswood	Soph., B.S.H.E.
Moore, Charles Edgar	Morgantown	Jun., A.B.
Moore, Dana Trescott	Morgantown	Sen., B.S.Agr.
Moore, Elfrida Elizabeth	Charleston	Fr., A.B.
Moore, Ernestine May	Harrisville	Fr., A.B.
Moore, John Norbert	Morgantown	*Fr., A.B.
Moore, Leslie Darl	Belington	Soph., B.S.Agr.
Moore, Martha Margaret	West Alexander, Pa.	Soph., A.B.
Moore, Robert Taylor	Ranson	Fr., B.S.M.E.
Moore, Virginia Christian	Flatwoods	Fr., A.B.
Moore, Walter Scott	Milton	Soph., B.S.E.M.

Moore, William Herbert	Charleston	Fr., B.S.Ch.E.
Moran, Walter Harrison	Fairmont	Sen., A.B.
Moreland, Dora Marie	Davis	Fr., A.B.
Moreland, Eleanor Brown	Morgantown	Grad. A. & S.
A.B., West Virginia University, 1898.		
Morgan, Emily Josephine	Morgantown	Fr., B.S.H.E.
Morgan, Jeannette	Mannington	Fr., A.B.
Morgan, Mont Francis	Ravenswood	Sen., B.S.Agr.
Morley, Burton Raymond	Charleston	Soph., A.B.
Morris, Alice Dulaney	Harrisville	Soph., A.B.
Morris, Mary Leota	Morgantown	Jun., B.S.H.E.
Morris, Stanley Clarence	Morgantown	1st Yr. Law
Morris, Thomas John	Enterprise	Fr., A.B.
Morris, Warren Francis	New Martinsville	Fr., A.B.
Morrison, William Byrne	Sutton	Sen., B.S. & 2nd Yr. Med.
Morrow, Julius Floyd	West Alexander, Pa.	Sen., B.S. & 2nd Yr. Med.
Moyle, Eugene Henry	Elkins	Fr., B.S.M.E.
Muhleman, Gladys Grey	New Martinsville	Soph., A.B.
Mullan, George Oscar	Piedmont	Fr., B.S.Agr.
Mullen, Leo Francis	Parkersburg	Jun., B.S.Ch.E.
Mullen, Robert Emmett	Huntington	Sen., B.S.E.E.
Muncy, John Woolwine	Avondale	Fr., A.B.
Murphy, Michael Jennings	Runa	Fr., A.B.
Murphy, Victor Byrne	Clay	*Fr., A.B.
Murray; Ella Louise	Hutchinson	Fr., A.B.
Musick, Bert	Bristol, Tenn.	Voc. Agr.
Myers, Ellen Lenora	Parkersburg	Fr., A.B.
Myers, Emma Frances	Summersville	Sen., A.B.
Myers, Ira Odell	Grafton	Fr., B.S.E.E.
Myers, James Howard	Martinsburg	Soph., B.S.
Myers, Karl Johnson	Philippi	1st Yr. Med.
Mylius, Leslie Clair	Elkins	Fr., Ph.G.
Mynes, Leo Howard	Charleston	Soph., A.B.
Nagano, Kazuma	Takaoka, Japan	Sen., A.B.
Nale, Helen Elizabeth	Morgantown	Fr., A.B.
Nale, Thomas William, Jr.	Morgantown	Soph., A.B.
Neale, William Henry, Jr.	Parkersburg	Fr., B.S.Agr.
Nease, Gifford Stuart	Charleston	Fr., B.E.E.E.
Neely, Forest Hunter	Fairmont	Jun., B.S.E.M.
Neely, Mary	Jane Lew	Fr., A.B.
Neff, Charles Thompson, Jr.	Piedmont	Jun., A.B.
Nefflen, Edgar Lance	Elkins	*Fr., A.B.
Nefflen, Paul Ewald	Elkins	Jun., B.S.Agr.
Nefflen, William Elliott	Keyser	Jun., A.B.
Neill, James Donald	Cairo	*Fr., A.B.
Nelson, Roy Ezekiel	Independence	Sen., B.S.C.E.
Nestor, Parker Waitman	St. George	Voc. Agr.
Newcome, James Arthur	Keyser	Soph., A.B.
Newcomer, Ward Edwin	Morgantown	1st Yr. Med.
Newell, Frances Edith	Chester	Jun., A.B.
Newman, Mae	Huntington	Sen., A.B.
Nicholls, Sterling Wentzle	Morgantown	*Fr., B.S.E.E.

Nicholson, Blake Edwin	Parsons	Soph., A.B.
Nogel, John Frederick	Kitzmiller, Md.	Voc. Eng'g.
Norman, Elsie Mae	Parkersburg	Sen., A.B.
Noyes, Bradford, Jr.	Charleston	Sen., B.Sc.
Nugent, Norman Henry	Providence, R. I.	*Fr., A.B.
Olson, Albert Edwin	Davis	*Fr., B.S.E.E.
Orr, John Lewis	Clarksburg	Fr., B.S.M.E.
Orr, Mary	Triadelphia	Soph., A.B.
Orr., William	Wheeling	Special Law
Orth, John Malcolm	Charleston	1st Yr. Law
A.B., West Virginia University, 1917.		
Osborne, Erra Emmett	Clendenin	Fr., A.B.
O'Toole, Edward Austin, Jr.	Gary	Fr., A.B.
Otto, Julia Elizabeth	Morgantown	Soph., A.B.
Ours, Lester	Petersburg	2nd Yr. Med.
Owen, Thelma Viola	Cumberland, Md.	Soph., A.B.
Owens, Ivan Clarke	Ivan	Soph., B.S.Agr.
Pancake, McDowell	Romney	Sp. Agr.
Parker, Paul Edward	Clarksburg	Soph., B.S.C.E.
Parrish, John Clossen	Liverpool	Voc. Eng'g.
Parrish, Nollie Lee	Morgantown	Sen., A.B.
Parsons, Nola	Proctor	Fr., B.S.H.E.
Patt, Ralph	Morgantown	*Fr., B.S.C.E.
Patterson, Jeannette Greer	Chester	Fr., A.B.
Patterson, Maud Allender	Morgantown	Sen., B.S.H.E.
Patton, Mabelle Alma	Gap Mills	Jun., B.S.H.E.
Paul, Charles Ferguson, Jr.	Wheeling	Fr., A.B.
Payne, Grace Fleming	Hedgesville	Jun., A.B.
Payne, John Edward	Clarksburg	Sen., B.S. & 2nd Yr. Med.
Payne, Marie Kizzie	Oak Hill	Fr., A.B.
Payne, Richard Franklin	Philippi	Soph., B.S.Agr.
Pell, Van Elmis	Masontown	Fr., B.S.Agr.
Pennington, Gladys	Morgantown	Grad. A. & S.
A.B., West Virginia University, 1918.		
Peterson, Arthur Horn	Romney	Fr., B.S.E.E.
Peterson, Oda Kate	Weston	Fr., A.B.
Pettigrew, Harry Alford	Morgantown	Fr., A.B.
Pettigrew, Helen Purinton	Morgantown	Grad. A. & S.
A.B., West Virginia University, 1913.		
Petty, Louise Kirk	Hartford	Soph., A.B.
Pew, Noel Lorentz	Pennsboro	Fr., B.S.M.E.
Pfost, Donald Monroe	Spencer	Sen., B.S. & 2nd Yr. Med.
Phillips, Delbert Martin	Newburg	Voc. Agr.
Phillips, Earl Strawn	Wheeling	Fr., A.B.
Phillips, Maurice Earl	French Creek	Sen., B.S.Agr.
Pippin, Irene Mae	Morgantown	Soph., A.B.
Pitman, Robert Edward	Bacon's Castle Va.	Voc. Agr.
Pitsenberger, Charles Ezra	Pool	Fr., B.S.M.E.
Pittenger, Sarah Elizabeth	Newell	Fr., A.B.
Poffenbarger, Perry Simpson	Pt. Pleasant	Fr., B.S.E.E.
Poland, Joseph Johnson	Bluefield	Soph., B.S.Agr.

Poling, Forrest Blanchard	Philppi	Jun., A.B.
Poling, Lawrence Edward	Philppi	Fr., A.B.
Polsue, William Clewell	Charleston	Fr., B.S.M.E.
Pool, Willard	Charleston	1st Yr. Law
Poole, Helen Fleming	Fairmont	Soph., A.B.
Porter, Jean Williamson	Oak Hill	Soph., B.S.H.E.
Porter, Lloyd Garrison	Oak Hill	Fr., B.S.Ch.E.
Potter, Helen Salome	West Union	Soph., A.B.
Potter, Kathryn Margaret	Sistersville	Fr., A.B.
Powell, Margaret Grace	Morgantown	Sen., A.B.
Pownall, Wilhelmina High	Keyser	Fr., A.B.
Prather, Fonzo	Burnt House	1st Yr. Med.
Pratt, Elizabeth Lorraine	Morgantown	Soph., A.B.
Preiser, Benjamin	Charleston	Jun., B.S.Ch.E.
Price, Agnes Louise	Marlinton	Sen., A.B.
Price, Arthur Clyde	Smithfield	Soph., B.S.E.E.
Price, Charles Sanford	Uffington	Fr., B.S.Agr.
Price, John Raymond	Morgantown	Jun., A.B.
Price, Mabel Wilma	Morgantown	Fr., A.B.
Price, Margaret Randolph	Marlinton	Sen., A.B.
Price, Otella Beatrice	Morgantown	Sen., A.B.
Price, Paul Holland	Morgantown	Soph., A.B.
Price, William Spencer	Morgantown	Jun., B.S.M.E.
Prichard, May Eula	Morgantown	Sen., B.S.H.E.
Pride, Cecil Ben	Fairmont	1st Yr. Med.
Prince, Elmer Woodward	Morgantown	Jun., B.S.C.E.
Prove, George Washington	Elkton, Va.	Jun., B.S.Ch.E.
Pugh, Joseph Lawrence	Morgantown	*Fr., B.S.M.E.
Putts, Fred Joseph	Rensselaer, Ind.	Fr., B.S.Agr.
Pyles, John W.	New Martinsville	*Fr., A.B.
Pyles, Marshall Ashley	Alderson	Special
B.S., Kentucky Wesleyan College, 1906.		
Quinn, James	Tunnelton	Fr., B.S.Ch.E.
Quisenberry, Ray Woolfork	Hinton	*Fr., B.S.Ch.E.
Ramsay, Harry James	Mt. Pleasant, Pa.	*Fr., B.S.C.E.
Ramsey, Arley Wayne	Belington	*Fr., B.S.E.E.
Randall, George Fleming	Shinnston	Jun., A.B.
Randolph, Ernestine Fitz	Salem	Sen., A.B.
Randolph, Gladys Elizabeth	Salem	Fr., A.B.
Rankin, Vernon Edwin	Berkeley Springs	*Fr., A.B.
Ransom, Floyd Howard	Wheeling	Fr., B.S.E.E.
Read, Thomas Leigh	Hinton	Fr., A.B.
Reaser, Edwin Franklin	Reedsville	Soph., A.B.
Reay, Margaret Virginia	Morgantown	Fr., A.B.
Reed, Charlotte Hellice	Williamstown	Fr., B.S.H.E.
Reed, Fred Wilton	Procious	Sen., A.B.
Reed, William Eugene	Morgantown	*Fr., A.B.
Reeder, Benjamin Garnet	Salem	Jun., A.B.
Rees, John Wendell	Welch	Fr., B.S.C.E.
Reeves, Sarah Alta	Fairmont	Sen., B.S.H.E.
Reincke, Chester Edward	Wheeling	Sp. Phar.
Repair, William Francis	Parsons	*Fr., B.S.E.E.

Reynolds, Frances Elizabeth	Grape Island	*Fr., B.S.H.E.
Reynolds, George William	Richmond, Va.	Voc. Eng'g.
Reynolds, Kathryn Suit	Keyser	Jun., A.B.
Reynolds, Knight	Keyser	Fr., A.B.
Reynolds, Lester	Keyser	*Fr., A.B.
Reynolds, Vivian Gordon	Grafton	Jun., A.B.
Rhorabough, Thomas Albert	Belington	*Fr., B.S.Agr.
Rice, Harold Alston	Berkeley Springs	Sen., A.B.
Rice, Worth Kirkwood	Berkeley Springs	Fr., A.B.
Richards, Arthur Thomas	Morgantown	Fr., B.S.E.E.
Richards, George Cochran	Piedmont	1st Yr. Law
Richardson, Charles Joseph	Sistersville	Soph., A.B.
Riddle, Hugh Dillard	Davis	Jun., A.B.
Riddle, Nathan Gilbert	Davis	*Fr., A.B.
Riddle, Walter	Morgantown	Grad. A. & S.
A.B., West Virginia University, 1919.		
Ridenour, Gertrude Julia	Buckhannon	Fr., A.B.
Ridenour, Leva Edna	Princeton	Fr., A.B.
Ridenour, Roscoe Sharpes	Farmington	Soph., A.B.
Ridgway, Frances Marie	Morgantown	*Fr., A.B.
Riffle, Mary Stuart	Hinton	Fr., A.B.
Riffle, George Newcomer	McClellandtown, Pa.	Sen., B.S. & 2nd Yr. Med.
Riggle, Don Lachlin	Middlebourne	Soph., A.B.
Riggle, Harold Engle	Middlebourne	Jun., B.S.M.E.
Riggle, Herbert Lee	Middlebourne	Fr., B.S.M.E.
Riggle, Herman Bee	Middlebourne	Fr., B.S.M.E.
Riggs, Cecil Orval	Moundsville	Sen., A.B.
Riggs, Emily Esther	Morgantown	Jun., A.B.
Riggs, Isaac Larkin	Morgantown	Soph., B.S.E.M.
Riley, Dorman N.	Waterloo, Va.	Voc. Agr.
Ritchie, William Smith	Ravenswood	Soph., B.S.C.E.
Roach, Harold Hervey	New Cumberland	*Fr., B.S.Ch.E.
Robbins, Ola	Mannington	Fr., A.B.
Roberts, Darius	Morgantown	Special Eng'g.
Roberts, James Egbert	Charleston	Soph., A.B.
Robey, Francis Webster	Wallace	Fr., A.B.
Robinson, Clara Lenore	Morgantown	Soph., A.B.
Robinson, Harry Grayden	Philippi	1st Yr. Law
Robinson, Rarlin Burl	Elkins	Soph., B.S.C.E.
Robinson, Wallace Frederick	Spotsylvania, Va.	Voc. Agr.
Roby, Clarence	Petersburg	2nd Yr. Law
A.B., West Virginia University, 1919.		
Roby, Hobart	Petersburg	Fr., A.B.
Rocke, Herman Obenshain	Troutville, Va.	Voc. Agr.
Roden, Robert William	Uniontown, Pa.	1st Yr. Med.
Rodgers, Harold William	Clarksburg	Fr., B.S.M.E.
Rodgers, Ira Errett	Bethany	Sen., A.B.
Rodgers, Ronald Earl	Mount Hope	Fr., B.S.E.E.
Rogers, James Mathew	Burnsville	Voc. Agr.
Rogers, Margaret Neville	Morgantown	Jun., A.B.
Rohrabaugh, John Henry	Berkeley Springs	Grad. A. & S.
B.S., Davis & Elkins College.		
Rokos, Marcalus Matthew	Morgantown	Jun., B.S.M.E.
Rollings, Harry West, Jr.	Lost City	Soph., A.B.
Roome, Elizabeth	Sistersville	Jun., A.B.

Ropp, Clarence Daniel Luther	Martinsburg	Jun., A.B.
Rose, Hugh Carlyle	Spencer	*Fr., B.S.Agr.
Ross, Ethel Gertrude	Hedgesville	Grad. A. & S.
A.B., West Virginia Wesleyan College, 1918.		
Rotruck, Arnold	Moorefield	Fr., B.S.E.E.
Roush, George Harold	Fairmont	Jun., A.B.
Roush, Mary Irene	Fairmont	*Fr., B.SH.E.
Rowland, Joseph Kins	Princeton	*Fr., A.B.
Rowley, Homer King	Shinnston	Jun., B.S.Agr.
Rubush, Charles Christian	Beckley	*Fr., B.S.M.E.
Rugh, Charles Frederick	Indiana, Pa.	Jun., A.B.
Runner, Delmar Gaston	Morgantown	*Fr., B.S.E.E.
Rush, Mildred Alverda	Kingwood	Fr., A.B.
Russell, Katharine	Morgantown	Sp., A.B.
Ryan, Paul Francis	Mannington	Soph., B.S.C.E.
Ryan, Thomas Perry, Jr.	Spencer	Special A. & S.
Ryan, William St. Clair	Spencer	Fr., A.B.
Rymer, Lillian Marie	Middlebourne	Fr., A.B.
Rymer, Nelle Barbara	Middlebourne	Soph., B.S.H.E.
Sabrovitch, Paul	Yale, Va.	Voc. Agr.
Salvati, Leo Harry	Monongah	Soph., A.B.
Salvati, Raymond Earnest	Monongah	Soph., B.S.E.M.
Sander, John William	Wheeling	Fr., A.B.
Sanders, Carl Custer	Philippi	Sen., A.B.
Sanders, Joseph McDonald, Jr.	Bluefield	2nd Yr. Law
Sanderson, Alene Regina	Elkins	Soph., A.B.
Sangston, James Polk	McClellandtown, Pa.	Fr., Ph.G.
Sapp, Mary Louise	Morgantown	Soph., A.B.
Saurborne, Sylvia Barnes	Bridgeport	1st Yr. Med.
Savage, Joseph Whitney	Charleston	*Fr., B.S.M.E.
Sayre, Floyd McKinley	Ripley	Sen., A.B. & 1st Yr. Law
Sayre, Gordon	Morgantown	Special Agr.
Sayre, Greek	Morgantown	Grad. A. & S.
A.B., West Virginia University, 1918.		
Schaber, Frederick Harry	Wheeling	Fr., A.B.
Schilling, John Griffith	Morgantown	Soph., A.B.
Schmeichel, Emilie Louise A.	Morgantown	Fr., A.B.
Schnopp, Walter Clinton	Hazelton	Sp. Agr.
Scott, Grace Elinore	Morgantown	Jun., A.B.
Scott, Kathryn Virginia	Charleston	Sen., B.S.H.E.
Scott, Parry Mason	Morgantown	1st Yr. Med.
Selbe, Paul Benton	St. Albans	Fr., A.B.
Selby, Allen Luther	Morgantown	Voc. Agr.
Selby, Harlan Bovelle	Fairmont	Soph., A.B.
Selby, Mildred Virginia	Morgantown	*Fr., B.S.H.E.
Setron, Joseph Louis	Parkersburg	Fr., B.S.C.E.
Settle, Nina Forest	Charleston	Fr., A.B.
Sevy, Heber Powell	Oak Hill	Fr., B.S.Agr.
Sevy, Pansy Lorraine	Oak Hill	Soph., B.S.H.E.
Shafer, George Joseph	Martinsburg	Fr., A.B.
Shaffer, Harry Morse	Aurora	Fr., A.B.
Shaffer, James Harvey	Morgantown	Jun., B.S.Agr.
Shakley, Edgar	Hollidays Cove	*Fr., B.S.C.E.
Sharp, Georgia	Edray	Soph., A.B.

Sharpe, Ruth Fay	Follansbee	Jun., B.S.H.E.
Shaw, Beryl-May	Morgantown	Soph., A.B.
Shaw, Victor Harry	Fairmont	1st Yr. Law
Sheaffer, Lester Lynwood	New Martinsville	Fr., A.B.
Sheets, David Finney	Huntington	3rd Yr. Law
Sheffer, Ralph Lin	Huntington	Jun., B.S.E.E.
Shepard, Virginia Lee	Griffithsville	Fr., A.B.
Shinn, Hugh Sherwood	Belington	Soph., B.S.E.E.
Shirey, William Brown	Union	Jun., A.B.
Shobe, Homer Lee	Petersburg	Fr., Ph.G.
Shomaker, Lloyd Carlton	Morgantown	*Fr., B.S.Agr.
Shore, Ernest Luke	Keyser	Fr., A.B.
Short, Alexander, Jr.	Huntington	Voc. Agr.
Shorter, Paul McKenney	Brookneal, Va.	Voc. Agr.
Shott, Hugh Isaac, Jr.	Bluefield	Fr., B.S.E.M.
Shoup, Sarah Elizabeth	Morgantown	Soph., A.B.
Showalter, Hugh Brock	Fairmont	Fr., B.S.E.M.
Showman, Frank Warrick	Morgantown	Sen., B.S.Agr.
Shrewsbury, Hobart Graham	St. Albans	Fr., B.S.E.E.
Shriver, Allie Pauline	Morgantown	Jun., A.B.
Shughrou, James Leo	Ronceverte	Jun., B.S.C.E.
Shughrou, Nelle	Ronceverte	Soph., A.B.
Shumate, John Philip	Hinton	Fr., A.B.
Shuttleworth, Wayne Stacy	Fairmont	Jun., A.B.
Sidell, Rhea Mabel	New Martinsville	Fr., B.S.H.E.
Sigler, Percy Allen	Piedmont	Fr., A.B.
Simons, Creed	Horner	1st Yr. Law
A.B., West Virginia University, 1918.		
Sine, Vera Marjorie	Parkersburg	Fr., A.B.
Sisler, James Donald	Morgantown	Sen., A.B.
Skaggs, Pauline Thelma	Summersville	Soph., A.B.
Skinner, James Marshall, Jr.	New Martinsville	Soph., A.B.
Slater, Sue	Mannington	Fr., B.S.H.E.
Slaven, Garnet Cosby	Oak Hill	Soph., B.S.C.E.
Smallwood, William E.	Bays	Voc. Agr.
Smith, Emmet Irwin	West Union	Soph., B.S.Agr.
Smith, Georgina	Morgantown	Sen., A.B.
Smith, Harold Guy	Fairmont	Fr., A.B.
Smith, Harry Anthony	Wheeling	*Fr., A.B.
Smith, Hattie May	Flemington	Jun., A.B.
Smith, Homer Lee	Chester	*Fr., B.S.M.E.
Smith, Hosea Alexander	Cowen	Fr., B.S.Agr.
Smith, Howard Carrollton	Grafton	Jun., B.S.Agr.
Smith, James Albert, Jr.	Albert	*Fr., B.S.C.E.
Smith, Marguerite Elizabeth	Morgantown	*Fr., A.B.
Smith, Mary Elizabeth	Flemington	Soph., A.B.
Smith, Mildred	St. Marys	Soph., A.B.
Smith, Ruth Olive	Grafton	Fr., B.S.H.E.
Smith, Sherman	Shively	Voc. Agr.
Smith, Uneva	Morgantown	Jun., A.B.
Smith, Vernon Bonnyfield	Morgantown	Soph., B.S.E.M.
Smith, Walter Edgar	Spencer	*Fr., B.S.C.E.
Smith, William Allan	Blaine	*Fr., A.B.
Smyth, Olin Darius	Van Voorhis	Fr., A.B.
Smyth, Walter Alexander	Sistersville	Fr., B.S.M.E.
Snaith, Theresa Ora	Weston	Soph., A.B.

Snedeker, William Leroy	Wheeling	Sen., A.B.
Snider, David Shelby	Rivesville	Fr., B.S.Agr.
Snider, Elizabeth Blake	Rivesville	Special A. & S.
Snider, Marjorie Josephine	Huntington	Fr., A.B.
Snooks, John Rupert	Powellton	Fr., B.S.Ch.E.
Snyder, Charles	Hundred	Fr., B.S.E.E.
Snyder, Harry Lambright, Jr.	Shepherdstown	Fr., A.B.
Snyder, Melvin Claud	Albright	Fr., A.B.
Snyder, Virginia Ruhamah	Morgantown	Jun., A.B.
Sohn, Edward May	Williamson	Soph., B.S.E.E.
Sommer, Paul Harrison	Sutton	Sen., B.S.E.E.
Sonderman, Hazel Margaret	Wheeling	Soph., A.B.
South, Roy Hampton	Keystone	*Fr., A.B.
Spangler, Pauline Richardson	Romney	*Fr., A.B.
Spaur, Klayde Beatrice	Grafton	Jun., A.B.
Spelsberg, Walter	Clarksburg	Fr., A.B.
Spencer, Mary Loretta	Mannington	Fr., A.B.
Spindler, Charles Hobart	Kingwood	Fr., A.B.
Spindler, Garold Ralph	Kingwood	Fr., B.S.E.M.
Springston, Hal Beecher	Ravenswood	*Fr., B.S.C.E.
Staats, Harold Ashton	Ripley	Soph., A.B.
Staeck, Felix Cecil	McMechen	Soph., A.B.
Stalnaker, Cecil Martin	Parsons	Soph., B.S.Agr.
Stalnaker, Lillian	Parsons	Fr., A.B.
Starcher, Everett Hanley	Ripley	Fr., A.B.
Starcher, Harold Eugene	Ripley	Fr., A.B.
Starkey, Gladys Helena	Ravenswood	Fr., B.S.H.E.
Starkey, Shirley Leland	Ravenswood	Sen., B.S.Agr.
Staub, Philip Alphonso	Hambleton	Fr., B.S.E.E.
Stealey, Frances Norten	Clarksburg	Soph., A.B.
Stealey, James Edmond	Clarksburg	*Fr., B.S.C.E.
Steele, Ernest Clark	Morgantown	*Fr., A.B.
Steele, French	Saint Marys	*Fr., A.B.
Steele, Tie Earnest Newton	Saint Marys	*Fr., B.S.Agr.
Steere, Mabel Virginia	Grape Island	Fr., A.B.
Stein, George Alvin	Wheeling	*Fr., B.S.Ch.E.
Steinecke, Olga Emma	Keystone	Soph., A.B.
Stemple, Isabel Catherine	Amboy	Soph., A.B.
Stenger, Leo Edward	Morgantown	1st Yr. Med.
Stephens, Tracy Ralston	Morgantown	Fr., B.S.C.E.
Stevenson, Charles Alexander	Morgantown	*Fr., B.S.E.E.
Stevens, Edith	Metz	Soph., A.B.
Stevens, Gilbert Troy	Fairmont	Voc. Agr.
Stewart, Dean Bradley	New Cumberland	Fr., B.S.M.E.
Stewart, James Warren	East Clarksburg	Soph., B.S.E.M.
Stewart, Mary	Morgantown	Soph., A.B.
Stewart, Mary Elizabeth	Sistersville	Fr., B.S.H.E.
Stewart, Merrie Marguerite	Morgantown	Sen., A.B.
Stewart, Otis Gayle	East Clarksburg	Jun., B.S.E.M.
Stickler, Merton Harvey	Oak Hill	Soph., B.S.C.E.
Stobbs, Henry Alpheus	Wheeling	Soph., B.S.C.E.
Stockert, Ida Clay	Burnsville	Jun., B.S.H.E.
Stoetzer, John James Brown	Fairmont	Fr., B.S.E.M.
Stoker, Ralph Jennings	Morgantown	Sen., B.S.E.E.
Stollings, Garnette Jennings	Stollings	*Fr., B.S.E.M.

Stone, Erwin Bowman	Morgantown	Sen., A.B.
Stone, Frederic Arol	Morgantown	Fr., A.B.
Stone, Louis Earl	Mt. Hope	Jun., B.S.E.E.
Stonestreet, Rose Elizabeth	Wolf Summitt	Special Law
Stout, Abner Sterling	Bridgeport	Special Agr.
Stout, Malden Dallas	Clarksburg	Jun., A.B.
Stout, Thurman Allen	Clarksburg	Fr., B.S.C.E.
Stoyer, Rudolph Samuel	Philadelphia Pa.	Fr., B.S.C.E.
Strader, Audra Dow	Buckhannon	Voc. Agr.
Straight, Hazel Robert	Mannington	Fr., A.B.
Straight, Herschel	Rivesville	Fr., B.S.E.M.
Straley, Blanche Valentine	Princeton	Soph., A.B.
Strother, David Hunter	Berkeley Springs	Soph., B.S.M.E.
Stump, Elton M.	Morgantown	Fr., A.B.
Stump, Golden June	Stumptown	Soph., A.B.
Stump, James Adam	Romney	*Fr., B.S.C.E.
Stump, Katharine Casey	Romney	Fr., B.S.H.E.
Stump, Mary Virginia	Romney	Soph., B.S.H.E.
Stump, Noah Franklin	Morgantown	Jun., A.B.
Stump, Wilbur Dale	Charleston	Soph., B.S.E.E.
Sturgiss, Helen Gould	Morgantown	Sen., A.B.
Sturgiss, Margaret	Morgantown	Fr., A.B.
Sturm, Harry Gail	Enterprise	Jun., B.S.Agr.
Sturm, Minnie Lorene	Enterprise	Jun., A.B.
Stutz, William Jacob	New Castle, Pa.	1st Yr. Med.
Swann, Clarence Calvary	Barboursville	Voc. Agr.
Swearingen, Frank Vandevort	Fairmont	Fr., B.S.E.M.
Swiger, Lyle Ernest	Morgantown	Fr., B.S.C.E.
Swiger, Rual Bower	Fairmont	Jun., B.S.C.E.
Swisher, Thomas Hyer	Sutton	Jun., B.S.M.E.
Tabler, Lee Douglas	Martinsburg	Fr., B.S.E.E.
Talbott, Agnes Gertrude	Fairmont	Fr., B.S.H.E.
Talbott, Esker Wayne	Philippi	Jun., A.B.
Talbott, Richard Bosworth	Elkins	Soph., A.B.
Talbott, Samuel Ford	Morgantown	Sen., B.S.
Talkington, Dale	Mannington	Fr., B.S.C.E.
Tanner, Gerald Darland	Reedsville	Soph., A.B.
Tapp, Helen Gladys	Morgantown	Fr., A.B.
Tarr, Helen Elizabeth	Morgantown	Jun., A.B.
Tavenner, Lewis N., Jr.	Parkersburg	Fr., A.B.
Taylor, Clarence Thiers	Elm Grove	*Fr., B.S.M.E.
Taylor, John Wilbur	Weston	Fr., B.S.E.M.
Taylor, Lynn Arden	Masontown	Jun., B.S.Agr.
Teets, Donald Edward	Aurora	Sp. Phar.
Tennant, Edna	Wadestown	Fr., B.S.H.E.
Tennant, Janet Lee	Spraggs, Pa.	Soph., B.S.H.E.
Theiss, John Otto	Ravenswood	2nd Yr. Med.
Thomas, Margaret	Parkersburg	Jun., A.B.
Thompson, Della Maree	Middlebourne	Jun., B.S.H.E.
Thompson, Forest Rutledge	Morgantown	Fr., B.S.E.E.
Thompson, Guy Paul	Berkeley Springs	Soph., A.B.
Thompson, Herbert Hudson	Spencer	Sen., B.S.Agr.
Thompson, Marie	Morgantown	Sen., A.B.
Thornton, Clark Monroe	Princeton	3rd Yr. Law

Thornton, James Linton	Bluefield	Fr., B.S.M.E.
Thornton, Ray Spencer	Princeton	Jun., B.S.Agr.
Thornton, Renard Urban	Bluefield	Fr., A.B.
Tiennebrunne, Yvonne	Salem	Soph., A.B.
Tierney, Genevieve	Weston	Sen., A.B.
Tierney, James Paul	Clarksburg	2nd Yr. Law
Timberlake, John Grantham	Clarksburg	Fr., A.B.
Tissue, Katheryn Anne	Rowlesburg	Soph., A.B.
Todorovitch, Srboljub	Kragujevac, Serbia	Voc. Agr.
Toler, Jesse Lee	Caloric	Fr., A.B.
Tomkies, Douglas Christian	Hinton	Soph., A.B.
Tomkies, Naomi Everett	Hinton	Fr., B.S.H.E.
Tregellas, Harold Milton	Grafton	Fr., A.B.
Treweek, John Spargo	Wheeling	Fr., B.S.M.E,
Trotter, Eleanor Agnes	Washington, D. C.	Fr., A.B.
Trotter, Katherine Elizabeth	Washington, D. C.	Soph., A.B.
Trotter, Lorentz Steele	Morgantown	Sen., A.B.
Troxell, Susan Catherine	Fairmont	Jun., B.S.H.E.
Trump, Charles Samuel	Martinsburg	3rd Yr. Law
Trump, Frank Myers	Martinsburg	Grad. A. & S.
B.S., West Virginia University, 1919.		
Tucker, John Wyland	Morgantown	Fr., A.B.
Tuckwiller, Rachel	Lewisburg	Jun., A.B.
Turkovich, Matthew	Monongah	Soph., B.S.C.E.
Turley, Clarence Clarke	Woodville	Fr., B.S.E.M.
Turley, William Campbell	Logan	3rd Yr. Law
Twyford, Mayme Lucinda	West Union	Sen., B.S.H.E.
Twyman, Russell Heavner	Clarksburg	Jun., B.S.M.E.
Valentine, Mark Twain	Parsons	1st Yr. Law
Vandegrift, Edith Beatrice	Ridgeley	Fr., B.S.H.E.
Vandervort, Jessie Carr	Fairmont	Jun., A.B.
Vandervort, Mary Adaline	Morgantown	Special Agr.
Vandervort, Virginia Maud	Weston	Fr., B.S.H.E.
VanGilder, Russell Dwight	Morgantown	Jun., A.B.
Van Meter, Robert Stuart	Martinsburg	Soph., A.B.
Vannoy, Isabelle Jane	Sistersville	Soph., A.B.
VanReenen, Albert Cecil	Onoto	Soph., A.B.
VanVoorhis, Isaac Lindsay	VanVoorhis	Sen., A.B.
Vickers, Althea Kate	Morgantown	Soph., A.B.
Vickers, Fanny Clay	Morgantown	Soph., A.B.
Vincent, Lyle Dustin	St. Marys	Fr., A.B.
Virgin, Courtney Clark	Wheeling	Soph., B.S.E.M.
Wade, Bryan Lewellyn	Star City	Fr., B.S.Agr.
Wade, Charles Alexander	Morgantown	*Fr., B.S.M.E.
Wadsworth, Howard Jesse	Morgantown	Soph., A.B
Walker, Henry Streit	Winona	Sen., A.B.
Walker, Reford Bond	Williamson	Jun., B.S.E.E.
Walker, William Wallace	Winona	1st Yr. Med.
Walls, Hoy Jay	Morgantown	Sen., B.S.E.E.
Walters, William Walter	Clarksburg	3rd Yr. Law
Ward, Gladys Twyla	Weston	Fr., B.S.H.E.
Ward, Mary Genevieve	Beverly	Soph., A.B.
Warnick, Irene Hooper	Williamson	Fr., A.B.

Warrick, Louis Frederick	Morgantown	Jun., B.S.Ch.E.
Waters, John Robert, Jr.	Elkins	Soph., A.B.
Watkins, Cassie	Elkins	Soph., B.S.H.E.
Watkins, Harry Evans	Monongah	Soph., A.B.
Watson, Clara Belle	Morgantown	Jun., A.B.
Watson, Dorothy Elizabeth	Morgantown	Soph., A.B.
Watson, William Rinehart	Morgantown	Soph., A.B.
Watt, Karl Murray	Kittanning, Pa.	Fr., B.S.C.E.
Webb, Jesse Franklin	Bertha	Voc. Agr.
Wedekind, Bahnie Carmen	Elkins	Sen., A.B.
Weekley, Mary Ganell	Harrisville	Fr., A.B.
Wees, Donald Stuart	Elkins	Soph., A.B.
Weimer, George Cecil	Port Royal, Pa.	Sen., A.B.
Weinberger, Robert Christian	Parkersburg	Voc. Agr.
Wellen, Clyde William	Morgantown	2nd Yr. Law
Wells, Verna Lillian	Morgantown	Sen., Ph.G.
Welton, William Archibald	Petersburg	1st Yr. Med.
Werninger, Mary Rebecca	Huntington	Jun., A.B.
West, John Thomas	Morgantown	Grad. A. & S.
B.S., West Virginia University, 1907.		
Whaley, Ellis Burton	Finch	Sen., A.B.
Wharton, Ray Hunter	New Martinsville	1st Yr. Med.
Wheeler, Jerrold Ellsworth	Elkins	Soph., B.S.C.E.
Wheeler, Russell Baxter	Gassaway	*Fr., B.S.E.E.
Wheeler, Ruth Cecelia	Rowlesburg	Soph., A.B.
Wheeler, Vernon Olan	Morgantown	Soph., B.S.M.E.
Whetsel, Bernice	Fayette City, Pa.	Jun., A.B.
Whetsell, Mabelle Eleanor	Morgantown	Fr., A.B.
White, Chester Ross	Kingwood	Fr., B.S.Agr.
White, Christine	Richwood	Fr., A.B.
White, Fred St. Elmo, Jr.	Charleston	Fr., B.S.M.E.
White, James Franklin	Morgantown	1st Yr. Med.
White, Jerry Adams	Terra Alta	Soph., Ph.G.
White, Julius Slyvester	Laneville	Voc. Agr.
White, Katharine Rosalie	Richwood	Soph., A.B.
White, Mary Jane	Morgantown	Grad. A. & S.
A.B., West Virginia University, 1918.		
White, Orville Dewey	Kingwood	Soph., B.S.Agr.
White, Robert Patton	Clarksburg	Sen., B.S.C.E.
White, Ross Bond	Weston	*Fr., B.S.E.E.
White, Stanley Ray	Morgantown	Soph., A.B.
Widmeyer, Robert Samuel	Martinsburg	Fr., A.B.
Wiedebusch, Charles Kerr	Morgantown	*Fr., B.S.M.E.
Wiek, Rieda Adline	Clarksburg	Soph., A.B.
Wiestling, Eleanor Virginia	Wheeling	Fr., B.S.H.E.
Wiestling, Helen Merwin	Wheeling	Grad. A. & S.
A.B., West Virginia University, 1911.		
Wiggins, Eli Clifford	Wellsburg	Soph., B.S.Agr.
Wilcoxen, Max	Huntington	Jun., B.S.E.E.
Williams, Charles Reed	Claudville, Va.	Voc. Agr.
Williams, Florence Virginia	Morgantown	Fr., B.S.H.E.
Williams, Fred John	Elwood, Ind.	Fr., B.S.Ch.E.
Williams, Mary Elizabeth	Moundsville	Sen., A.B.
Williams, Nell McCoy	Saint Marys	Fr., A.B.
Williams, Paul Henry	Ravenswood	Fr., B.S.C.E.
Williams, William James	Morgantown	Jun., B.S.M.E.

Williamson, Bertha Bernice	Williamstown	Fr., A.B.
Williamson, Charles Cullen	Williamson	Fr., A.B.
Williamson, Mary Frances	Williamson	Fr., A.B.
Williamson, Odas Delphia	Morgantown	Fr., B.S.H.E.
Williamson, Raymond Randolph	Friendly	Soph., B.S.C.E.
Williamson, Samuel Greenberry	Shepherdstown	Jun., A.B.
Wilmoth, Edith Lorraine	Elkins	Jun., A.B.
Wilmoth, Russell Woods	Elkins	Sen., B.S.E.M.
Wilson, Alice Eliza	Morgantown	Fr., A.B.
Wilson, Charles Vinyard	Lewisburg	Sen., B.S.Agr.
Wilson, Gladys Charlotta	Rowlesburg	Fr., A.B.
Wilson, Herman Evans	Grafton	Sen., A.B.
Wilson, Lillian Estelle	Harrisville	Fr., A.B.
Wilson, Orris Raymond	Kingwood	Fr., B.S.E.E.
Wilson, Paul Russell	Morgantown	Soph., A.B.
Wilt, Beatrice Maud	Elkins	Sen., A.B.
Wilt, Katharyn	Elkins	Jun., A.B.
Wilt, Ruth Elizabeth	Elkins	Fr., A.B.
Wimer, Frank Coin	Elkins	Sen., A.B.
Winter, Alden Raymond	Bridgeport	Sen., A.B.
Winter, Rupert Edward	Bridgeport	Fr., B.S.Agr.
Winters, Ernest Emile, Jr.	Huntington	3rd Yr. Law
Wise, Berenice Claire	Cameron	Fr., A.B.
Wiseman, Ruskin Johnson	Summersville	Fr., A.B.
Withers, Charles Hereford	Hogsett	Soph., A.B.
Wolford, Grace Louise	Morgantown	Jun., B.S.H.E.
Wood, Lee Okey	Delphi	Voc. Agr.
Wood, Ruth Augusta	Morgantown	Fr., A.B.
Woodford, Clarence Howe	Clarksburg	Soph., B.S.C.E.
Woods, John Fulton	Princeton	Fr., A.B.
Woodyard, Henry Chapman	Spencer	Fr., A.B.
Woolford, Elmer Benjamin	Martinsburg	Voc. Phar.
Worley, Elizabeth Madoline	Salem	Jun., A.B.
Wotring, Mary Elizabeth	Kingwood	Fr., A.B.
Wright, Russell Eshmul	Monongah	*Fr., B.S.C.E.
Wylie, Robert Morris	Huntington	Special A. & S.
Yost, Leland Lowe	Morgantown	Fr., B.S.E.E.
Yost, Paul	Fairmont	Fr., A.B.
Young, Harold Glynn	Moundsville	Fr., A.B.
Yovanovitch, Maria	Belgrade, Servia	Voc. Agr.
Zearley, Gay Elizabeth	Morgantown	*Fr., A.B.
Zearley, Joy	Morgantown	Sen., A.B.
Zeh, Earl Tecumseh	Wheeling	Fr., B.S.C.E.
Zinn, Mary Ruth	Huttonsville	*Fr., A.B.

STUDENTS ENROLLED IN THE SCHOOLS

Allen, Opal	Lima	Summer School
Allison, Bessie Etrullia	Charleston	Summer School
Allison, Dora Dorothy	Chester	Summer School
Amos, Bruce Talbot	Morgantown	Night Class
Anderson, Isabella Wilson	Parkersburg	Summer School
Arthur, Mary Isabella	Richwood	Summer School
Arthur, Ruth Stevenson	Richwood	Summer School
Bailey, Rose Hall	Williamstown	Summer School
Baker, Charlotte Blair	Morgantown	Music
Baker, Margaret Catharine	Elm Grove	Summer School
Barrett, Mary Josephine	Cameron	Summer School
Bartlett, Ethel Jemima	Bridgeport	Summer School
Beall, Daise Wood	Morgantown	Summer School
Beamer, Elsie Luella	Monitor	Summer School
Betts, Celia	Ronceverte	Summer School
Bevington, Isabelle Alberta	Morgantown	Music
Blake, Charles Leo	Woodruff	Summer School
Blatchford, Madelon Virginia	Belington	Music
Bloor, Alice	East Liveprool, O.	Summer School
Bobbitt, Mary Ruth	Cowen	Summer School
Bobbitt, William Chilton	Richwood	Summer School
	A.B., West Virginia Wesleyan College, 1916	
Boggs, Kathryn Brown	Gassaway	Summer School
Bonnesen, Ruth	Wheeling	Summer School
Bowman, Eugene Clark	Morgantown	Night Class
Boyd, Martha Everett	Wellsburg	Summer School
Brew, Janet Jackson	Ronceverte	Summer School
Brew, Katharine Jackson	Ronceverte	Summer School
Brown, Elisabeth	Morgantown	Music
Bunce, Almena Josephine	Franklin, Pa.	Music
Burke, Willis James	Morgantown	Music
Burley, Hazel Kyle	Davis	Summer School
Campbell, William Cameron	Charles Town	Summer School
Cash, Cleo Clendenin	Bluefield	Music
Cather, Maud Minshall	Morgantown	Music
Chalfant, Nellie Vilinda	Morgantown	Music
Chapman, Mayme Pittman	Morgantown	Summer School
Chesrown, Donald L.	Morgantown	Night Class
Chrislip, Ada Marie	Philippi	Summer School
Christie, Nina	Sinks Grove	Summer School
Clower, Nellie Miller	Moorefield	Summer School
Cobun, Adah Prudence	Kingwood	Summer School
Cochran, Gertrude Reed	Morgantown	Music
Collins, Anna Goldsborough	Cambridge, Md.	Summer School
Collis, Daisy Virginia	Martinsburg	Summer School
Cope, Walter Atlik	Kennett Sq,. Pa.	Summer School
Corkreau, Mary Ella	W. Sulphur S'p'gs	Summer School
Cormany, Ingaba	Belington	Night Class
Correll, Ethel Gray	Alderson	Summer School
Courtney, Wilma Marie	Morgantown	Music

Cowell, Cecyle Mae	Wadestown	Summer School
Cox, Mary Adele	Morgantown	Summer School
Crane, Lillian	Morgantown	Music
Crow, Iva	Morgantown	Summer School
Crowl, Helen Josephine	Fairmont	Music
Cummings, Ferieda	Kingwood	Music
Cunningham, Georga Frances	Spencer	Music
Cunningham, Margaret Leona	Morgantown	Music
Curtis, Cordella	Montrose	Summer School
Custer, Marie	Friendsville, Md.	Summer School
Davis, Eleanor Josephine	Morgantown	Music
Davis, Inez	Morgantown	Music
Davisson, Gertrude	Harrisville	Music
Davisson, Susan Aladine	Jane Lew	Music
Dawson, Kathryn Phoebe	Hookstown, Pa.	Summer School
Dearth, Lena	Dunbar, Pa.	Summer School
DeLynn, Anna Ida	Morgantown	Music
Dengg, Anna Katherina	Masontown	Summer School
Dent Louvenia Jackson	Asheville, N. C.	Music
Denton, Julia Byrd	Parsons	Summer School
Devore, Helen May	Chanute, Kansas	Music
Dille, Lucie Beltzhoover	Morgantown	Music
Dillow, Charles Robert	Hudson	Summer School
Dodge, Edna Lauretta	Terra Alta	Music
Dougan, Katharine Josephine	Morgantown	Summer School
Duffield, Flora Moore	Charleston	Summer School
Dunham, Nella Irene	Williamstown	Summer School
Dusenberry, Donald	Mt. Morris, Pa.	Music
Duvall, Clara Williams	Somerton, Ohio	Summer School
Dysard, Helen Elizabeth	Morgantown	Music
Eastwood, Mildred Martin	Charleston	Summer School
Edmiston, Laura	Toronto, Ohio	Summer School
Elliott, Kidie Alice	Captina	Summer School
Emerson, Clark	Morgantown	Night Class
Engler, Bertha	Helvetia	Summer School
Evans, Brooks Basil	Cameron	Summer School
Evans, Charleen Elizabeth	Moundsville	Summer School
Evans, Mary	Grafton	Summer School
Fair, Helen Margaret	Wallace	Music
Fankhauser, Eula Margaret	Bellaire, Ohio	Music
Fast, Mary Sandusky	New Geneva, Pa.	Summer School
Federer, Clara Beatrice	Morgantown	Music
Field, Edith Gertrude	Reedsville	Summer School
Fink, Mary Sue	Gassaway	Summer School
Fisher, Delphia Mary	Sissonville	Summer School
Fleming, Alice Mildred	Adlai	Summer School
Fleming, Goldie Mae	Morgantown	Music
Fling, Elsie Frances	Morgantown	Music
Fockler, Arnett	Persinger	Summer School
Forbes, Zona Marie	Morgantown	Music
Ford, Vada Margaret	Sistersville	Summer School

Forman, Pauline Fay	Morgantown	Music
Freeman, Marguerite	Parsons	Summer School
Fulton, Elbert Martin	Danville	Summer School
Gaines, Laura	Salem	Summer School
Gallagher, Margaret Frances	Morgantown	Summer School
Gandy, Frank Warren	Morgantown	Summer School
Garlow, Lorenza Quertimort	Point Marion, Pa.	Music
Gates, Cecil Raymond	Berkeley Springs	Night Class
Gayley, Adeline Edith	Richwood	Summer School
Getrost, Ethel Elizabeth	Griffithsville	Night Class
Gilbert, Helene Marie	Morgantown	Music
Gilhooley, Mary Margaret	Ronceverte	Summer School
Gill, Fay	Gill	Summer School
Gneiser, Hattie Violet	Wheeling	Summer School
Goodall, Chloe Lee	Charleston	Summer School
Goodnight, David Charles	Morgantown	Summer School
Gordon, Margaret May	W. Alexander, Pa	Summer School
Green, Florence	Morgantown	Music
Green, Gertrude	Morgantown	Music
Gregg, Margaret Virginia	Morgantown	Music
Gregory, Alfred Fleming	Webster Springs	Summer School
Grose, Ruth Ottie	Clay	Summer School
Groves, Huling	Deepwell	Summer School
Guilmette, Anna	Bayard	Summer School
Hackworth, Mattie Jane	Huntington	Summer School
Hall, Belle Protzman	Morgantown	Summer School
Hall, Bertha Dessa	Perryopolis, Pa.	Summer School
Hall, Estrial Mae	Cameron	Summer School
Hall, Hattie Rebecca	Fairview	Summer School
Hall, Ione Elizabeth	Sutton	Music
Halliday, Gertrude Liter	Point Pleasant	Music
Hamilton, Lillian Mae	Mannington	Music
Hard, Nelle	Charleston	Summer School
Hardy, Edith	Morgantown	Music
Harris, Gay	Canfield	Music
Harris, Wysor Elliott	Morgantown	Music
Hartley, Ethel Etna	Adah, Pa.	Summer School
Hartley, Eva Dale	Fairmont	Music
Hartley, Martha Wilhelmina	Morgantown	Music
Hartman, Ruby Beatrice	Kingwood	Music
Match, Margaret Estelle	Tarentum, Pa.	Summer School
Hawkins, Joseph Allen	Wardensville	Summer School
Heck, Sudie Elizabeth	Huntington	Summer School
Hecker, Norma	Fairmont	Music
Heckert, Osee Ireland	Spencer	Summer School
Heiskell, Amy Elizabeth	Paw Paw	Summer School
Heizler, Edna Roselle	Warwood	Summer School
Henry, Ella Elizabeth	Morgantown	Music
Hensell, Mary Josephine	Morgantown	Music
Herndon, Nettie Southworth	Terra Alta	Summer School
Higgs, Mabel Esther	Charlest Town	Summer School
Hill, Blanche	Hollidays Covs	Summer School

Hines, Addie Belle	Little Birch	Summer School
Hinkle, Dessie	Richwood	Summer School
Hoard, Wilda Beatrice	Morgantown	Music
Hofer, Allie	Proctor	Summer School
Hoge, Mary Rinehart	Waynesburg	Night Class
Horner, Hazel	East Millsboro, Pa.	Summer School
Horner, Helen	East Millsboro, Pa.	Summer School
Howard, Mary Emma	Cowen	Summer School
Howell, Addie Luella	Uffington	Summer School
Howercroft, James Alexander	Morgantown	Night Class
Huffman, Mary Gem	Parkersburg	Music
Hume, Beulah Benton	Baracoa, Cuba	Summer School
Hunt, Delphia	Frostburg, Md.	Summer School
Hupp, Charles Quay	Cameron	Summer School
Hylbert, Fannie Ferne	Reedy	Summer School
Jarrett, Esther	McDowell	Summer School
Jarrett, Mary Evelyn	Charleston	Summer School
Jeffries, Mildred Evalyn	Morgantown	Music
Jenkins, Kathryn Virginia	Morgantown	Music
Jenkins, Nellie Kester	Morgantown	Music
Jennings, Alva Augustus	Morgantown	Night Class
Johnston, Jessie Lee	Morgantown	Music
Johnston, Paul James	Morgantown	Music
Johnston, Vida Lee	Hamlin	Summer School
Jones, Anna	Newell	Summer School
Jones, Orma Olda	Charleston	Summer School
Jones, Richard Bradley	Davidsonville, Md.	Summer School
Kaplan, Bertha Vivian	Morgantown	Music
Kaufman, Mary Agnes	McMechen	Summer School
Kelch, Hilda	Sistersville	Summer School
Keller, Ruth Altha	Trafford, Pa.	Summer School
Kerr, William James	Farmington	Music
Kesner, Inez Belle	Tarentum, Pa.	Summer School
Ketterman, Emma Ruth	Morgantown	Music
Kilmer, Bessie Douglass	Martinsburg	Summer School
Klingel, Orville Dayton	Morgantown	Night Class
Krepps, Ada Officer	S. Brownsville, Pa.	Music
Lanham, Theora	Independence	Summer School
LaPoe, James Lindsay	Dilliner, Pa.	Summer School
LaRue, Esther Madeline	Kingwood	Summer School
Lazear, Edis Eleanor	Mannington	Music
Lazelle, Cecelia Mabel	Morgantown	Music
Lester, Verna Leodah	Morgantown	Music
Lewis, Olive Inez	Morgantown	Summer School
Lockard, Mary Louise	Pt. Marion, Pa.	Music
Lorant, Eva Marie	Morgantown	Summer School
Loriaux, Bertha	Pt. Marion, Pa.	Music
Lugar, Lela Ethel	Gap Mills	Summer School
Lynch, Berta	West Milford	Summer School

Maderia, Dorcas	Morgantown	Music
Madeira, Irene Elizabeth	Morgantown	Music
Mann, Ruby	Edray	Summer School
Mapel, Mary Victoria	Dunkard, Pa.	Music
Marschner, Esther	Morgantown	Music
Martin, Alma Underwood	Shinnston	Music
Martin, Earl ubert	Antioch	Summer School
Martin, Elsie Iva	Grafton	Summer School
Martin, Georgia Mildred	Romney	Music
Martin, Roy Jehu	Grafton	Summer School
Marvin, Louis Harold	Morgantown	Music
Matthew, Mary Annette	Manayka	Summer School
Maupin, Charles Lester	Morgantown	Music
Maxwell, Clarissa Jane	Manayka	Summer School
McBee, Mildred Wright	Morgantown	Music
McCartney, Martha Anne	Hinton	Summer School
McComas, Faye	Kimball	Summer School
McComas, Olla Beatrice	St. Marys	Music
McDermott, Louise Jane	Morgantown	Music
McElfresh, Carl Thomas	Fairmont	Music
McGinn, Agnes Marie	Lonaconing, Md.	Summer School
McKinney, Lillian Marguerite	Morgantown	Music
McNeill, Genevieve	Morgantown	Music
Meathrell, Draxie Miller	Berea	Summer School
Melton, Orma Argie	Charleston	Summer School
Menefee, Ida Florence	Keyser	Summer School
Meyers, Elizabeth	Lonaconing, Md.	Summer School
Michael, William Earl	Fairmont	Summer School
Miller, Anna Ruth	Kearneysville	Summer School
Miller, Ruth	Morgantown	Music
Minor, Edna Faye	Carmichaels, Pa.	Music
Moats, Anthony Walden	Grindstone, Pa.	Summer School
Monroe, Alta Isabella	Cameron	Summer School
Montran, Ruth Grace	Philadelphia, Pa.	Music
Moore, Mary Field	Smithfield, Pa.	Night Class
Morris, Edna Leyman	Morgantown	Music
Morris, Maude Bernadine	Friendly	Summer School
Morrison, Lewis French	Morgantown	Summer School
Morton, Emelyn Dowell	Ripley	Summer School
Murray, Ella Louise	Hutchinson	Summer School
Myers, Agnes	Pitcairn, Pa.	Summer School
Myers, Edward	Morgantown	Music
Naylor, Walter Lucullas	Grafton	Summer School
Nelson, Sarah	Morgantown	Music
Orr, Jessie Belle	Lonaconing, Md.	Summer School
Otto, Julia Elizabeth	Morgantown	Music
Owens, Elva Lisabeth	Monessen, Pa.	Summer School
Owens, Leota	Rosemont	Summer School

Parker, Elizabeth Jane	Morgantown	Music
Parker, Ruth	Mona	Music
Patton ,Margaret Elizabeth	Alderson	Summer School
Paxton, Maude Blandis	Spencer	Summer School
Pelley, Lura	Mingo Junction, O.	Summer School
Peniwell, Laura Etta	Washington, D. C.	Music
Peterson, Sylvia Belle	Dellslow	Summer School
Petty, Ely Katurah	Parkersburg	Summer School
Pippin, Irene Mae	Morgantown	Music
Poland, Genevieve	Morgantown	Music
Portman, Virginia Ethel	Morgantown	Summer School
Posten, Harold Bonafield	Morgantown	Night Class
Prather, Piera Pearl	Burnt House	Summer School
Price, Nellie Merle	Independence	Summer School
Prickett, Mary Alcinda	Fairmont	Summer School
Primm, Martha Catherine	Clarksburg	Music
Rader, Esther	Persinger	Summer School
Reed, Edna Maud	Newburg	Music
Reed, Elizabeth Estelle	Morgantown	Music
Reed, John Ross	Fairmont	Music
Reed, Joseph	Morgantown	Night Class
Reed, Mildred Louise	Morgantown	Music
Reed, Oliva Marian	Morgantown	Music
Rhodes, Joseph Sherman	Frenchburg, Ky.	Summer School
Rice, John Holt	Worth	Summer School
Richards, Edward John	Morgantown	Night Class
Richey, Harry Wyatt	Morgantown	Summer School
Ridenour, Jean Lynn	Farmington	Summer School
Rider, Elinore Virginia	Halltown	Summer School
Ridgway, Frances Marie	Morgantown	Summer School
Ridgway, Nelly Louise	Morgantown	Music
Rierson, Annie Edytha	Bluefield	Music
Robb, Helen Madeline	Morgantown	Music
Robertson, Stacia Gertrude	Charleston	Summer School
Robinson, Bessie May	Morgantown	Summer School
Robinson, Libbie Jean	Smithfield, Pa.	Summer School
Robison, Lena Grace	Barrackville	Summer School
Roby, Dessie Alice	Petersburg	Summer School
Roby, Mabel Jemima	Petersburg	Summer School
Rogers, Alma Sophia	Morgantown	Music
Rogers, E. Ray	Morgantown	Summer School
Rogers, Louise Clemson	Morgantown	Music
Rogers, Rhoda Ellen	Morgantown	Music
Rohrbough, Malinda	Camden	Summer School
Rohrabaugh, Walter Everett	Berkeley Springs	Summer School
Rose, Emma Blanche	Charleston	Summer School
Ross, Marjorie Ruth	Fairmont	Summer School
Ross, Robert Houston	Cameron	Summer School
Rude, Irene	McMechen	Summer School
Russell, Thelma Estelle	Lewisburg	Music
Sanders, Frances	Morgantown	Music
Sayre, Mary	Morgantown	Summer School
Schmidt, Adhemar	Point, Marion, Pa.	Music

Scott, Emma Jackson	Spencer	Summer School
Shaw, Alice Virginia	Mannington	Music
Shepp, Olive Grace	Keyser	Summer School
Shreve, Emma Cornelia	Charleston	Summer School
Shriver, Ella Pearle	Morgantown	Music
Shriver, Idah Mae	Wadestown	Summer School
Shriver, Lloyd Lawrence	Grafton	Night Class
Shriver, Lucy	Burton	Summer School
Shutts, Herman A.	Sherman	Summer School
Simpson, Olive Pearl	Cumberland, Md.	Summer School
Sine, Mae	New Cumberland	Summer School
Sisley, Laurena Maude	Perryopolis, Pa.	Summer School
Skidmore, Virgil Floyd	Given	Summer School
Skiles, Thelma Artimissa	Morgantown	Music
Sleeth, Lessie Gladys	Looneyville	Summer School
Smith, Anne Kathleen	Williamson	Music
Smith, Estella Miller	Morgantown	Summer School
Smith, Goldia Shriver	Morgantown	Summer School
Smith, Grace Marian	Richwood	Summer School
Smith, Helen Douglass	Ronceverte	Summer School
Smith, Ona Gay	Spencer	Summer School
Snaith, Mary Virginia	Weston	Music
South, Mary Lee	Morgantown	Music
Spadaccio, Alma Marie	Morgantown	Music
Steele, John Lorentz	Morgantown	Summer School
Stewart, Florence Edna	Morgantown	Music
Stewart, Reginald Guthrie	Cameron	Summer School
Stewart, Watt	Summersville	Summer School
Strother, Phinias Sylvester	Lumberport	Summer School
Stuart, Agnes Catharine	Morgantown	Summer School
Stump, Henry Charles	Yoe, Pa.	Music
Sturm, Mary Marjorie	Viropa	Music
Surgeon, Bernice	Reader	Summer School
Swager, Katherine Redmond	Clarksburg	Music
Talbott, Virginia Compton	Philippi	Music
Taylor, Elba Olin	Morgantown	Music
Taylor, Minnie Mabel	Mt. Sterling, Pa.	Summer School
Taylor, Nina	Hurricane	Summer School
Tennant, Raymond John Jefferson	Morgantown	Music
Thomas, Edith May	Wheeling	Summer School
Thomas, Margaretta Olive	Morgantown	Music
Thompson, Carl Truman	Morgantown	Music
Thompson, Lucy Irene	Huntington	Night Class
Toler, Ethel Dana	Morgantown	Summer School
Torrence, Edna Pearl	Dawson, Pa.	Summer School
Tracewell, Leona	Parkersburg	Summer School
Trickett, Lucie Sidney	Morgantown	Music
Umberger, Lois Gildersleve	Athens	Summer School
Van Devender, Lillie B.	Spencer	Summer School
Van Devender, Opal	Weston	Summer School
Van Dyne, Jessie Gail	Reader	Summer School

Vanscoy, Beura William	Miletus	Summer School
Van Voorhis, Mabel	Van Voorhis	Music
Vardy, Agnes Morrison	Pleasanton	Music
Veon, Emma	Waverly	Summer School
Wain, Kathryn Beatrice	East Liverpool, O.	Music
Walker, Beatrice Ashley	Baltimore, Md.	Summer School
Walker, Robert Henry	Stevensville, Va.	Summer School
Walsh, Mary	Lonaconing, Md.	Summer School
Watson, Vesta Halbrook	Mullens	Summer School
Webber, William Albert	Morgantown	Night Class
Weese, Margret Viola	Morgantown	Music
Weller, Bessie	Masontown, Pa.	Summer School
Wells, Gail Teresa	Farmington	Summer School
Wells, Haidee Pearl	Fairview	Summer School
Weston, Lilly Jenevieve	Morgantown	Music
Whetsell, Mabelle Eleanor	Morgantown	Music
White, Annie Laurie	Lewisburg	Night Class
White, Grace Yoke	Logan	Summer School
White ,Kathern Mason	Webster Springs	Music
Williams, Edgar	Morgantown	Music
Williams, Harriett	Morgantown	Music
Williams, Lela Agnes	Richwood	Summer School
Williams, Mary Margarett	Morgantown	Music
Williams, Minnie Gail	Ravenswood	Summer School
Williams, Nannie Lorraine	Shepherdstown	Summer School
Williams, Sara Elvira	Morgantown	Music
Williams, William Henry	Morgantown	Night Class
Willis, Martha Jane	Morgantown	Music
Wilson, Ada Leah	Richwood	Summer School
Wilt, Marguerite Eleanor	Morgantown	Music
Wilt, Twila Dale	Davis	Music
Withrow, Vera Lucille	Point Pleasant	Summer School
Wolf, Rose Jane	Morgantown	Music
Wolford, Lillian Christina	Keyser	Summer School
Wood, Phebe Jane	Dunbar, Pa.	Summer School
Woodruff, Charles Herbert	Elm Grove	Summer School
Woodward, Mabel	Beverly	Summer School
Workman, Ina Pearl	Munition	Summer School
Workman, Sybil	Richwood	Summer School
Wright, Evelyn Manette	Morgantown	Music
Young, Catharine Louise	New Martinsville	Summer School
Young, Ora	Pickaway	Summer School
Young, Zella Mae	Morgantown	Music
Zearley, Gladys Ione	Van Voorhis	Music

SUMMARY OF UNIVERSITY ENROLLMENT FOR 1919 - 1920

(As far as reported, May 1, 1920.)

Enrollment in the Colleges and the School of Medicine.

	CANDIDATES FOR DEGREES																							
	Graduate			Senior			Junior			Sophomore			Freshman			Total			Special			Total		
	Men	Women	Total	Men	Women	Total	Men	Women	Total	Men	Women	Total	Men	Women	Total	Men	Women	Total	Men	Women	Total	Men	Women	Total
Arts and Sciences	15	17	32	39	56	95	44	65	109	88	103	191	226	145	371	412	386	798	4	5	9	416	391	807[1]
Engineering	1	--	1	26	--	26	34	--	34	64	--	64	187	1	188	312	1	313	17	--	17	329	1	330
Agriculture	4	--	4	14	21	35	22	15	37	26	29	55	60	63	123	126	128	254	62	6	68	188	134	322
Law	--	--	--	16	--	16	10	--	10	20	2	22	--	--	--	46	2	48	5	1	6	51	3	54[1]
Medicine and Pharmacy	--	--	--	21	2	23	31	1	32	3	--	3	15	1	16	70	4	74	8	1	9	78	5	83
Totals	20	17	37	116	79	195	141	81	222	201	134	335	488	210	698	966	521	1487	96	13	109	1062	534	1596[2]

Enrollment in Other Departments:

School of Music	13	128	141
Summer School (not counted elsewhere)	36	199	235[3]
Night Classes	14	6	20
Totals	66	333	396

Enrollment in Short Courses and Extension Courses:

Winter Short Course in Agriculture	(Not held in 1919-20)		
Farmers' Week, 1920	526	108	634
Boys' and Girls' Prize Winners Course, 1919	---	---	---
School of Good Roads	174	---	174
Summer School in Mining	---	---	57
Extension Courses:			
In Industrial Education	---	---	44
In Mining	---	---	333
In College of Arts and Sciences:			
First Semester	---	---	313
Second Semester	---	---	148

[1] Twelve students enrolled in the College of Arts and Sciences are doing their work in the College of Law in the combined course (see page 244).

[2] Of this number 153 registered as non-residents of West Virginia.

[3] The total enrollment in the Summer School was 639. Of this number 381 were students of college rank.

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